

10/04/96

=> fil reg; d stat que 144; d stat que 140; fil capl; d que nos 149
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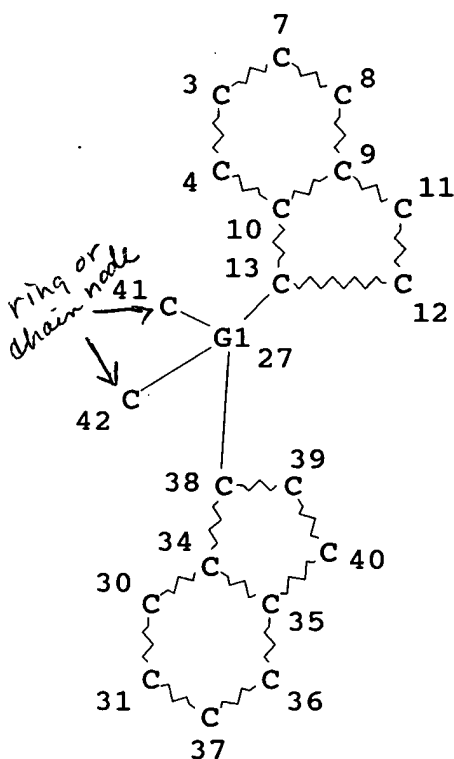
STRUCTURE FILE UPDATES: 27 SEP 96 HIGHEST RN 181354-01-8
DICTIONARY FILE UPDATES: 03 OCT 96 HIGHEST RN 181354-01-8

TSCA INFORMATION NOW CURRENT THROUGH DECEMBER 1995

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L42

STR



your structure #1
(minus 2 of the fused rings -
broader search)

VAR G1=SN/SI/GE
NODE ATTRIBUTES:
NSPEC IS RC AT 41
NSPEC IS RC AT 42
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

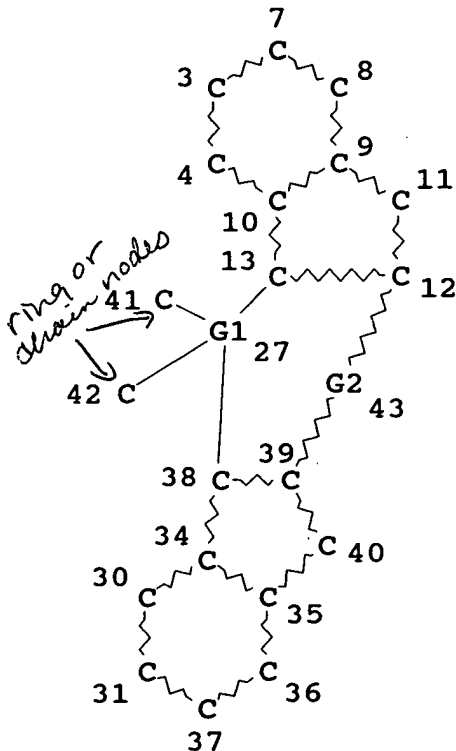
~~L44~~ 146 SEA FILE=REGISTRY SSS FUL L42

100.0% PROCESSED 2479 ITERATIONS
SEARCH TIME: 00.00.06

146 ANSWERS

L38

STR



*your structure # 2
(minus 2 of the fused rings)*

VAR G1=SN/SI/GE
VAR G2=TI/ZR/HF/CR/MO/W/V/NB
NODE ATTRIBUTES:
NSPEC IS RC AT 41
NSPEC IS RC AT 42
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

L40 215 SEA FILE=REGISTRY SSS FUL L38

100.0% PROCESSED 293 ITERATIONS
SEARCH TIME: 00.00.07

215 ANSWERS

FILE 'CAPLUS' ENTERED AT 15:55:34 ON 04 OCT 96
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COPYRIGHT (C) 1996 AMERICAN CHEMICAL SOCIETY (ACS)

Searched by Barb O'Bryen, STIC 308-4291

FILE COVERS 1967 - 4 Oct 1996 VOL 125 ISS 15
FILE LAST UPDATED: 4 Oct 1996 (961004/ED)

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L38 STR
L40 215 SEA FILE=REGISTRY SSS FUL L38
L41 72 SEA FILE=CAPLUS L40/P OR L40/DP
L42 STR
L44 146 SEA FILE=REGISTRY SSS FUL L42
L48 53 SEA FILE=CAPLUS L44(L)RCT/RL
~~L49 43 SEA FILE=CAPLUS L48 AND L41~~

*search for citations
containing the preparation
of str #2 & str #1 as
a reactant*

~~==> bib abs hitstr l49 1-43~~

Display format prints Registry record(s) after matching citation

L49 ANSWER 1 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1996:488804 CAPLUS
DN 125:143017
TI A method of preparing high purity racemic metallocene alkyls and use thereof
IN Fisher, Richard Allen; Burkhardt, Terry John
PA Exxon Chemical Patents Inc., USA
SO PCT Int. Appl., 26 pp.
CODEN: PIXXD2
PI WO 9619488 A1 960627
DS W: AU, CA, JP, KR, SG, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
AI WO 95-US16689 951221
PRAI US 94-361266 941221
DT Patent
LA English
AB An improved synthesis for the prepn. of high purity, racemic metallocene alkyls substantially free of alkali metal salts and meso isomer is disclosed. The process comprises (a) forming a reaction product in the presence of a solvent of a cyclopentadienyl ligand metal salt and a perhalogenated Group 4-6 transition metal compd. or its etherate complex; (b) combining the product of (a) with at least two molar equivalents of an alkylating agent; (c) sepg. the soln. from the subsequently formed solids; (d) removing the solvent to recover the metallocene alkyl compd., and; (e) washing the metallocene alkyl with solvent or solvent mixts. The metallocene alkyl compds. are particularly suitable for use as addn. or insertion polymn. catalysts when activated by a suitable polymn. cocatalyst. Thus, lithiation of [bis(2-methylbenz[e]indenyl)]dimethylsilane with BuLi in Et2O/hexane followed by treatment with in PhMe gave bright yellow soln. Grignard methylation of the obtained soln. with MeMgBr in Et2O followed by treatment with Me3SiCl in dioxane gave title compd., 24% rac-dimethylsilanediylbis(2-methylbenz[e]indenyl)zirconium di-Me.
IT 143301-15-9P 150995-51-0P 179823-03-1P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP

Searched by Barb O'Bryen, STIC 308-4291

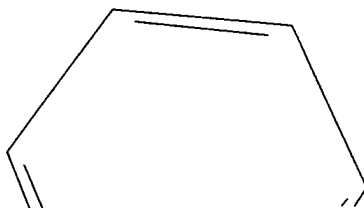
(Preparation); USES (Uses)

(prepn. of high purity racemic metallocene alkyls as polymn. catalysts)

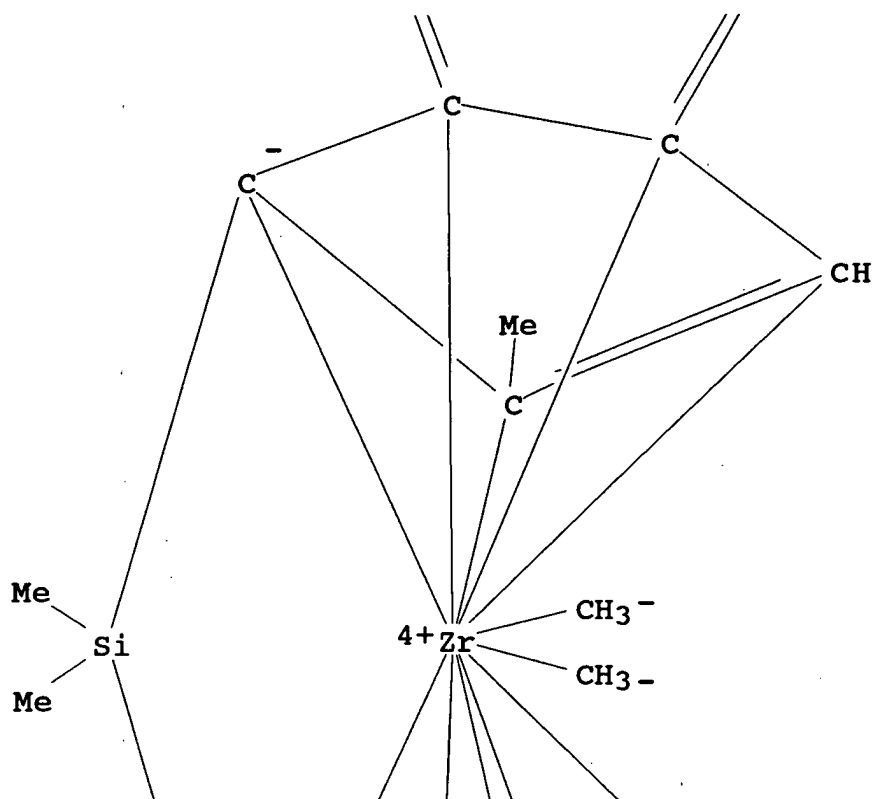
RN 143301-15-9 CAPLUS

CN Zirconium, [(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]dimethyl-, (R*,R*)- (9CI) (CA INDEX NAME)

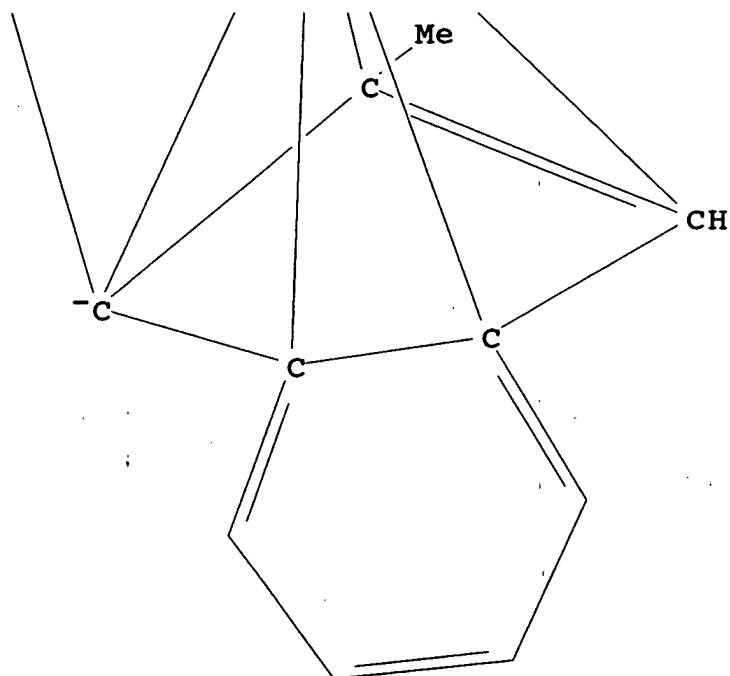
PAGE 1-A



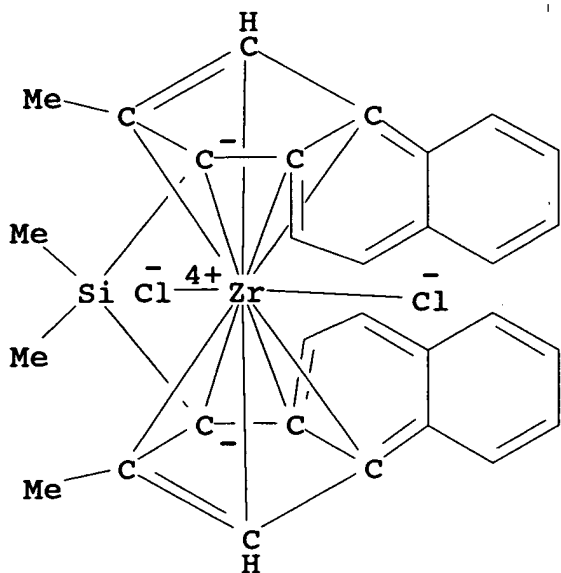
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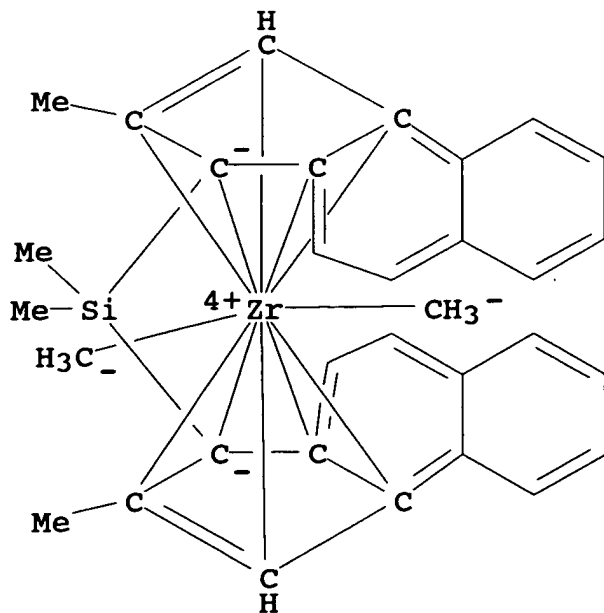
PAGE 3-A



RN 150995-51-0 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,9b-eta.)-2-methyl-3H-benz[e]inden-3-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)



RN 179823-03-1 CAPLUS
CN Zirconium, [(dimethylsilylene)bis[(1,2,3,3a,9b-eta.)-2-methyl-3H-benz[e]inden-3-ylidene]]dimethyl-, stereoisomer (9CI) (CA INDEX NAME)



IT 124684-47-5 150096-53-0 179823-04-2

Searched by Barb O'Bryen, STIC 308-4291

179823-06-4 179823-08-6 179823-10-0

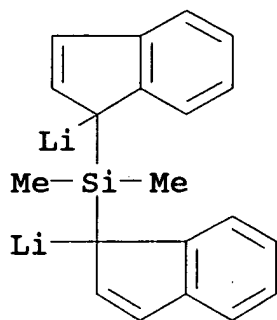
179823-12-2 179823-14-4

RL: RCT (Reactant)

(prep. of high purity racemic metallocene alkyls as polymn. catalysts)

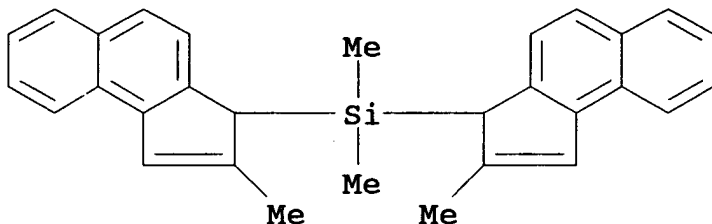
RN 124684-47-5 CAPLUS

CN Lithium, [.mu.-[1,1'-(dimethylsilylene)di-1H-inden-1-ylidene]]di-(9CI) (CA INDEX NAME)



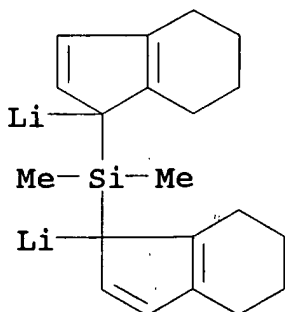
RN 150096-53-0 CAPLUS

CN Silane, dimethylbis(2-methyl-3H-benz[e]inden-3-yl)- (9CI) (CA INDEX NAME)



RN 179823-04-2 CAPLUS

CN Lithium, [.mu.-[(dimethylsilylene)bis(4,5,6,7-tetrahydro-1H-inden-1-ylidene)]]di- (9CI) (CA INDEX NAME)

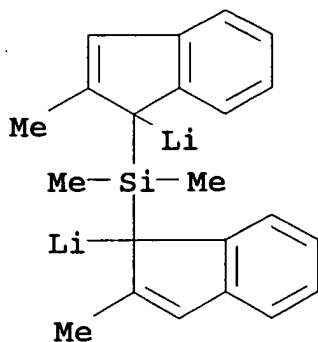


RN 179823-06-4 CAPLUS

CN Lithium, [.mu.-[(dimethylsilylene)bis(2-methyl-1H-inden-1-

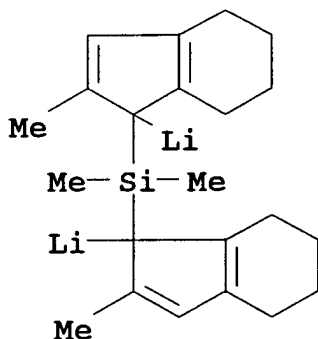
Searched by Barb O'Bryen, STIC 308-4291

ylidene)]di- (9CI) (CA INDEX NAME)



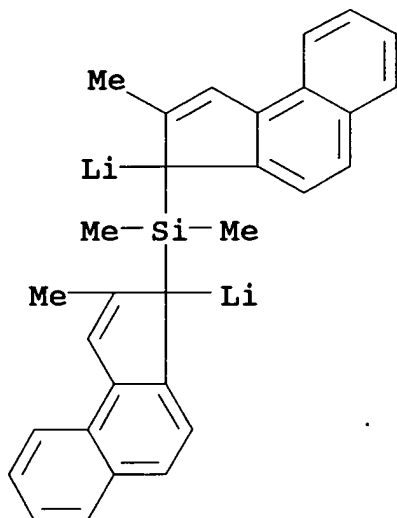
RN 179823-08-6 CAPLUS

CN Lithium, [mu-[(dimethylsilylene)bis(4,5,6,7-tetrahydro-2-methyl-1H-inden-1-ylidene)]]di- (9CI) (CA INDEX NAME)



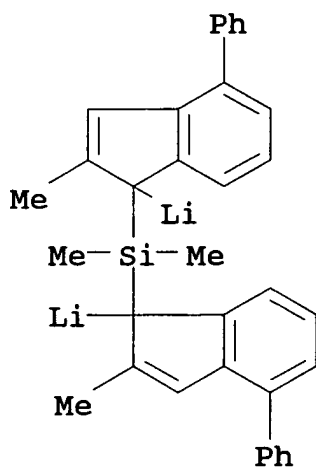
RN 179823-10-0 CAPLUS

CN Lithium, [mu-[(dimethylsilylene)bis(2-methyl-3H-benz[e]inden-3-ylidene)]]di- (9CI) (CA INDEX NAME)



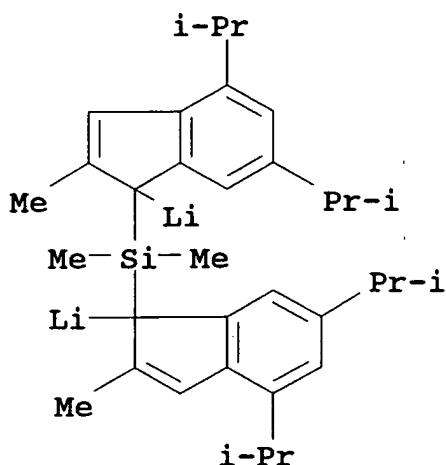
RN 179823-12-2 CAPLUS

CN Lithium, [.mu.-[(dimethylsilylene)bis(2-methyl-4-phenyl-1H-inden-1-ylidene)]]di- (9CI) (CA INDEX NAME)



RN 179823-14-4 CAPLUS

CN Lithium, [.mu.-[(dimethylsilylene)bis[2-methyl-4,6-bis(1-methylethyl)-1H-inden-1-ylidene]]]di- (9CI) (CA INDEX NAME)



L49 ANSWER 2 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1996:462414 CAPLUS

DN 125:116291

TI A composition of polypropylene and propylene-1-butene elastomer and films thereof with good transparency and blocking resistance

IN Tanizaki, Tatsuya; Hashimoto, Mikio; Sugi, Masahiro; Tsutsui, Toshiyuki; Tanaka, Yasuo; Kagami, Mamoru

PA Mitsui Petrochemical Industries, Ltd., Japan

SO Eur. Pat. Appl., 46 pp.

CODEN: EPXXDW

PI EP 716121 A1 960612

DS R: DE, FR, GB, IT, NL

AI EP 95-308867 951206

PRAI JP 94-302539 941206

JP 95-44440 950303

JP 95-47471 950307

DT Patent

LA English

OS MARPAT 125:116291

AB The title compn. having heat resistance, low-temp. heat-sealing properties, flexibility, and impact resistance comprises (A) 5-95 mol% polypropylene and (B) 5-95 mol% propylene-1-butene copolymer (prepd. in the presence of rac-(dimethylsilylene)bis[1-(2-methyl-4-phenylindenyl)]zirconium dichloride (I)) having intrinsic viscosity 0.1-12 dL/g as measured in decahydronaphthalene at 135.degree., Mw/Mn .ltoreq.3, and B value (indicating randomness of the copolymd. monomer sequence distribution) 1.0-1.5. A polypropylene composite film having low-temp. heat-sealing properties, transparency, scratch resistance, and blocking resistance comprises a cryst. polypropylene layer and a layer formed from the polypropylene compn., which is laminated on .gtoreq.1 surface of the cryst. polypropylene layer. Thus, 1-butene in hexane was treated with trisobutylaluminum, propylene, and methylaluminoxane in the present of I to give a 86.1:13.9 propylene-1-butene elastomer (II) showing intrinsic viscosity 2.51 dL/g, Mw/Mn 1.9 and B value 1.0, compared to an elastomer having intrinsic viscosity 1.89 dL/g, Mw/Mn 3.5, and B

value 0.94 prepd. in the presence of a Ti catalyst supported on MgCl₂. A 75:25 blend of II and cryst. polypropylene was laminated with cryst. polypropylene to give a laminated film showing low effective heat-sealing temp. 110.degree., haze 0.8%, slip property (static/kinetic friction coeff. ratio) 0.28/0.28, and blocking resistance 0.1 g/cm.

IT 153882-67-8P

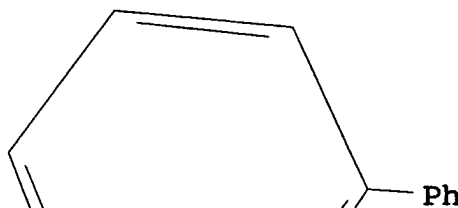
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(compn. of polypropylene and propylene-1-butene elastomer and films thereof with good transparency and blocking resistance)

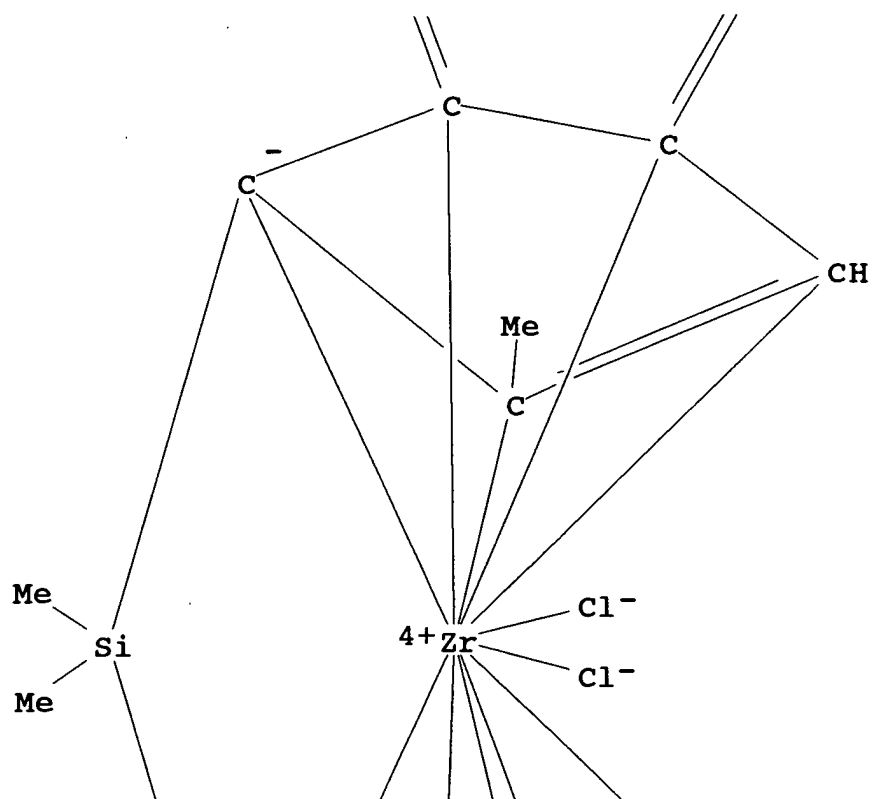
RN 153882-67-8 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-4-phenyl-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

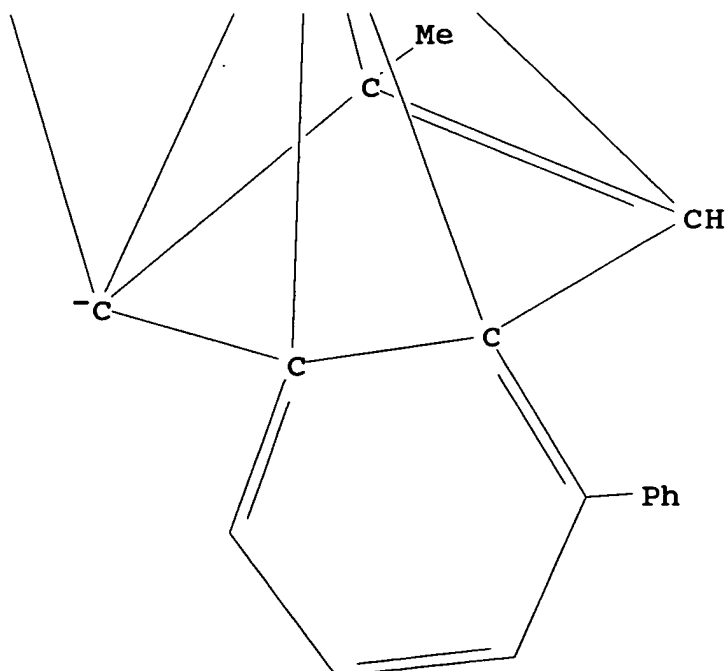
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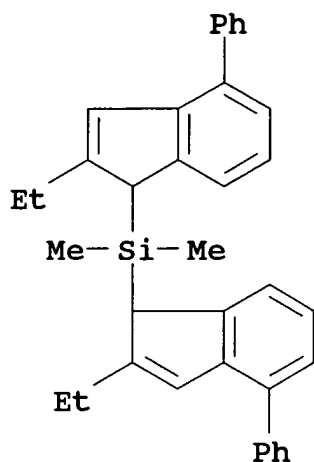


IT 154380-64-0P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation)

(prepn. of zirconium compd. catalyst for polymn. of olefins)

RN 154380-64-0 CAPLUS

CN Silane, bis(2-ethyl-4-phenyl-1H-inden-1-yl)dimethyl- (9CI) (CA
INDEX NAME)

L49 ANSWER 3 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1996:256126 CAPLUS

DN 124:289888

TI Preparation of bridged metallocenes

IN Aulbach, Michael; Kueber, Frank

PA Hoechst A.-G., Germany

SO Ger., 5 pp.

CODEN: GWXXAW

PI DE 4434640 C1 960201

AI DE 94-4434640 940928

DT Patent

LA German

OS CASREACT 124:289888; MARPAT 124:289888

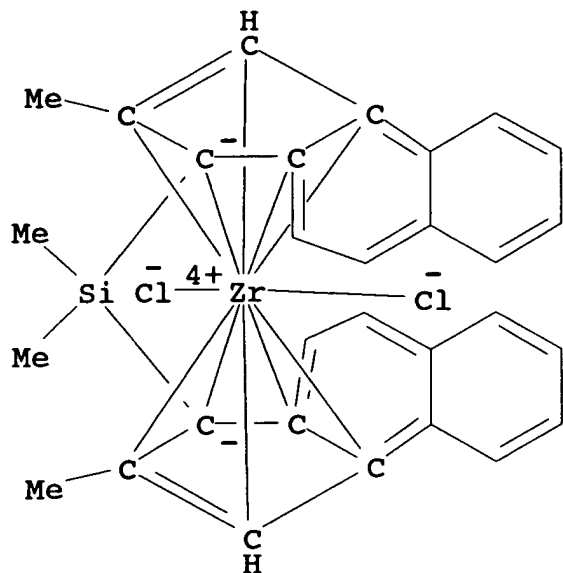
AB The prepn. of title compds., useful as olefin polymn. catalyst, is described. Thus, lithiation of 2-methyl-4,5-benzoindene with BuLi in THF/PhMe followed by silylation with Me₂SiCl₂ gave dimethylbis(2-methyl-4,5-benzoindenyl)silane. Lithiation of the later with BuLi without isolation followed by treatment with ZrCl₄ gave 31% title compd., dimethylsilanediybis(2-methyl-4,5-benzoindenyl)zirconium dichloride.

IT 161442-55-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 161442-55-3 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,9b-eta.)-2-methyl-3H-benz[e]inden-3-ylidene]]- (9CI) (CA INDEX NAME)



Ref ~~153882-678~~

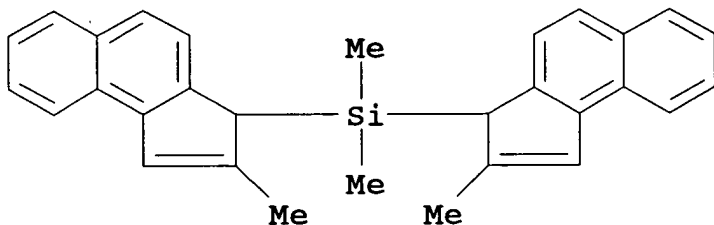
IT 150096-53-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation)

(prepn., lithiation, and sequential reaction with zirconium
tetrachloride)

RN 150096-53-0 CAPLUS

CN Silane, dimethylbis(2-methyl-3H-benz[e]inden-3-yl)- (9CI) (CA INDEX
NAME)



L49 ANSWER 4 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1996:245542 CAPLUS

DN 124:261995

TI Catalyst component having sterically hindering groups for
polymerization of alpha-olefins

IN Sugano, Toshihiko; Uchino, Hideshi; Imaeda, Kaori; Taniyama, Eiji;
Iwama, Naoshi

PA Mitsubishi Chemical Corporation, Japan

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

PI EP 697418 A1 960221

DS R: BE, DE, IT, NL

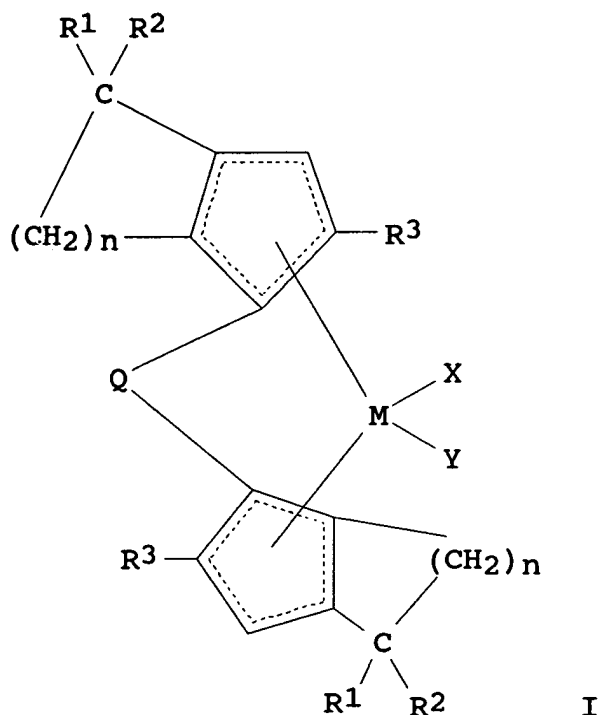
AI EP 95-305543 950809

PRAI JP 94-193377 940817

DT Patent

Searched by Barb O'Bryen, STIC 308-4291

LA English
OS MARPAT 124:261995
GI



AB A catalyst component for the title process is (I) [R1-3 = H, a halogen, a C1-10 hydrocarbon radical, a Si-contg. C1-18 hydrocarbon radical, or a halogen-contg. C1-10 hydrocarbon radical (provided that R1 and R2 cannot be H at the same time); n = 2-7; Q = a C1-20 hydrocarbon radical, a silylene or oligo-silylene group having or not having a C1-20 hydrocarbon radical, a germylene group having or not having a C1-20 hydrocarbon radical; X, Y = H, a halogen, a C1-20 hydrocarbon radical, or an O- or N-contg. C1-20 hydrocarbon radical; and M = transition metal of Group IVB-VIB] and is combined with an Al compd., e.g. aluminoxane. Use of the title catalyst will produce alpha-olefin polymers having a high m.p. and a high mol. wt. in a high yield. C3H6 was polymd. in the presence of Me aluminoxane and dimethylsilylenebis(2,4-dimethyl-hexahydroazulenyl) zirconium dichloride at 20.degree./1 kg/cm2 for 15 min and 40.degree./ 7 kg/cm2 for 2 h to give polypropylene having no.-av. mol. wt. 6.06 .times. 104 and m.p. 148.4.degree..

IT 175649-05-5P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(catalyst for polymn. of alpha-olefins)

RN 175649-05-5 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-4,5,6,7-tetrahydro-2,4-dimethyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

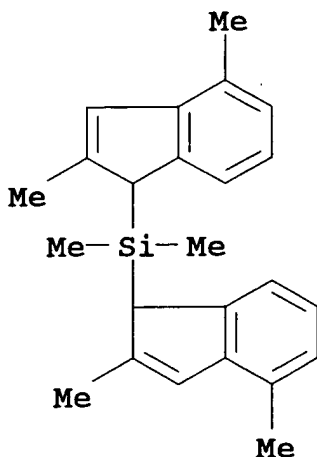
IT 175649-12-4

RL: RCT (Reactant)

(reaction with transition metal catalyst component; catalyst for polymn. of alpha-olefins)

RN 175649-12-4 CAPLUS

CN Silane, bis(2,4-dimethyl-1H-inden-1-yl)dimethyl- (9CI) (CA INDEX NAME)



L49 ANSWER 5 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1996:231577 CAPLUS

DN 124:318145

TI Olefin polymerization catalysts and manufacture of olefin polymers

IN Sugano, Toshihiko; Takahama, Tomohiko

PA Mitsubishi Kagaku Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

PI JP 08020606 A2 960123 Heisei

AI JP 94-156217 940707

DT Patent

LA Japanese

OS MARPAT 124:318145

AB Title catalysts comprise (A) finely powd. carriers, (B) Group IVB-VIB transition metal compds. having .gtoreq.1 conjugated pentacyclic ligands, (C) org. Al oxy compds., and (D) Lewis acids or ionic compds. capable of converting B into cations at (A) components of C/transition metals of B) 10-500. Then, propylene (I) and/or .alpha.-olefins and the catalysts are contacted and polyemd. in gas phase to give stereospecific polymers with good processability. Thus, 10 g Accurel (A), 47.6 mg dimethylsilylbis(2-methylindenyl)zirconium dichloride, 2.0 g methylisobutylaluminoxane, 40 mg dimethylanilinium tetrakis(pentafluorophenyl)borate gave a catalyst, which was used for polymn. of I at 50.degree. for 2 h to give polymer having bulk d. 0.35 g/cm³, m.p. 143.5.degree., and Mn 92,600.

IT 143232-13-7P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

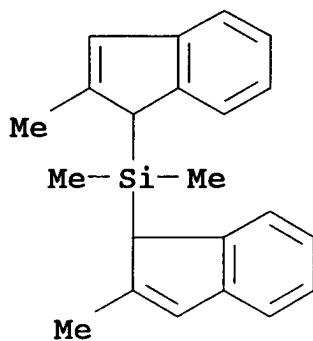
Searched by Barb O'Bryen, STIC 308-4291

(Preparation)

(polymn. catalysts carrying with transition metal compds.,
aluminoxanes, Lewis acids, and manuf. of stereospecific
polyolefins)

RN 143232-13-7 CAPLUS

CN Silane, dimethylbis(2-methyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



IT 143346-96-7P 149342-08-5P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)

(polymn. catalysts; polymn. catalysts carrying with transition
metal compds., aluminoxanes, Lewis acids, and manuf. of
stereospecific polyolefins)

RN 143346-96-7 CAPLUS

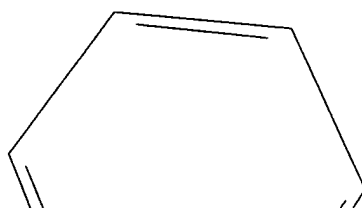
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-
4,5,6,7-tetrahydro-2-methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX
NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 149342-08-5 CAPLUS

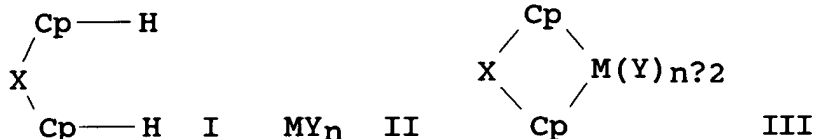
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-
methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

PAGE 1-A



Chemical structure diagram showing a central Zr atom (4+) coordinated by two Cl⁻ ions, a CH group, a C atom bonded to a Me group, a C atom with a negative charge, and a Si atom bonded to two Me groups. The Zr atom is also coordinated to several other atoms, including a C atom at the top and a C atom on the right, which are part of a larger framework.

L49 ANSWER 6 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1996:137646 CAPLUS
DN 124:177221
TI Synthesis of ansa-metallocene olefin polymerization catalysts
IN Jordan, Richard F.; Diamond, Gary M.
PA University of Iowa Research Foundation, USA
SO PCT Int. Appl., 41 pp.
CODEN: PIXXD2
PI WO 9532979 A1 951207
DS W: CA, JP
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
AI WO 95-US6485 950523
PRAI US 94-252591 940601
US 95-440628 950515
DT Patent
LA English
OS MARPAT 124:177221
GI

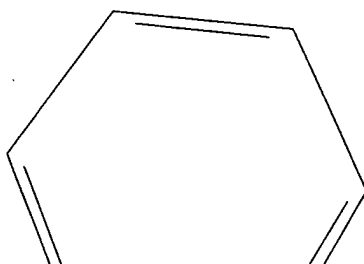


AB Ansa-metallocene complex III is synthesized in high yield by the reaction of ansa-bis-cyclopentadiene deriv. I with metal complex II in a non-aq. non-alc. org. solvent (Cp = cyclopentadienyl, indenyl, fluorenyl; X = bridging group, such as ethylene, methylene, and silylene; M = metal of group III, IVB, VB; Y = NRR', R, OR, SR, PRR', F, Cl, Br, I, OCOR, OSO₂R; R, R' = H, C₁-20 hydrocarbyl, silyl; n = 3-5). The synthetic reaction usually has racemic selectivity. The bridged metallocenes are useful as catalysts for olefin polymn.

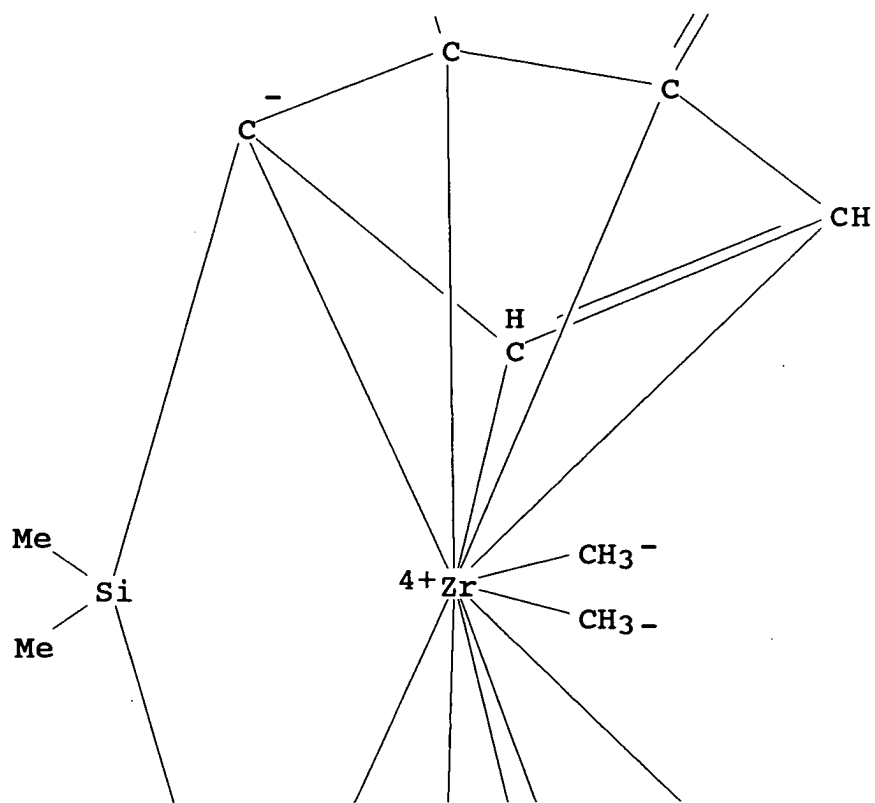
IT 149197-69-3P 174081-14-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(synthesis of ansa-metallocene olefin polymn. catalysts)

RN 149197-69-3 CAPLUS
CN Zirconium, [(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-1H-inden-1-ylidene]]dimethyl-, stereoisomer (9CI) (CA INDEX NAME)

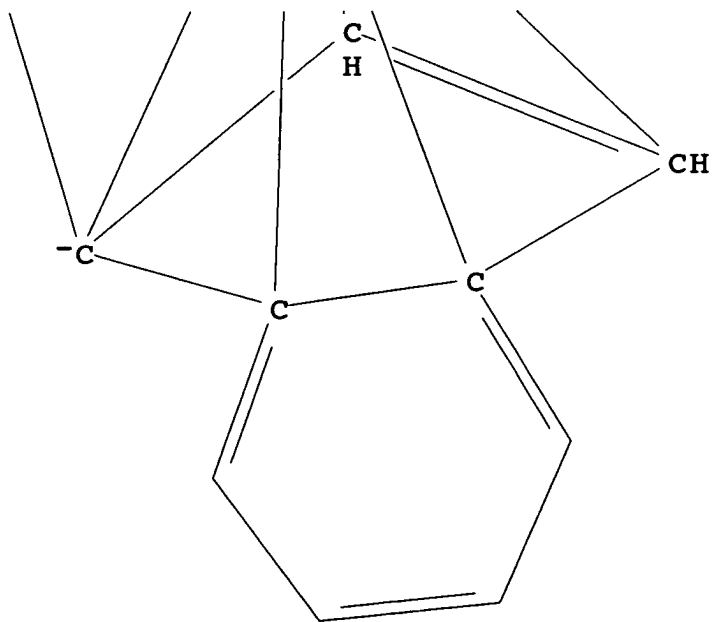
PAGE 1-A



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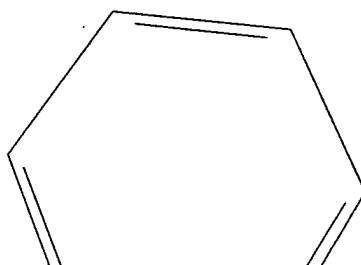


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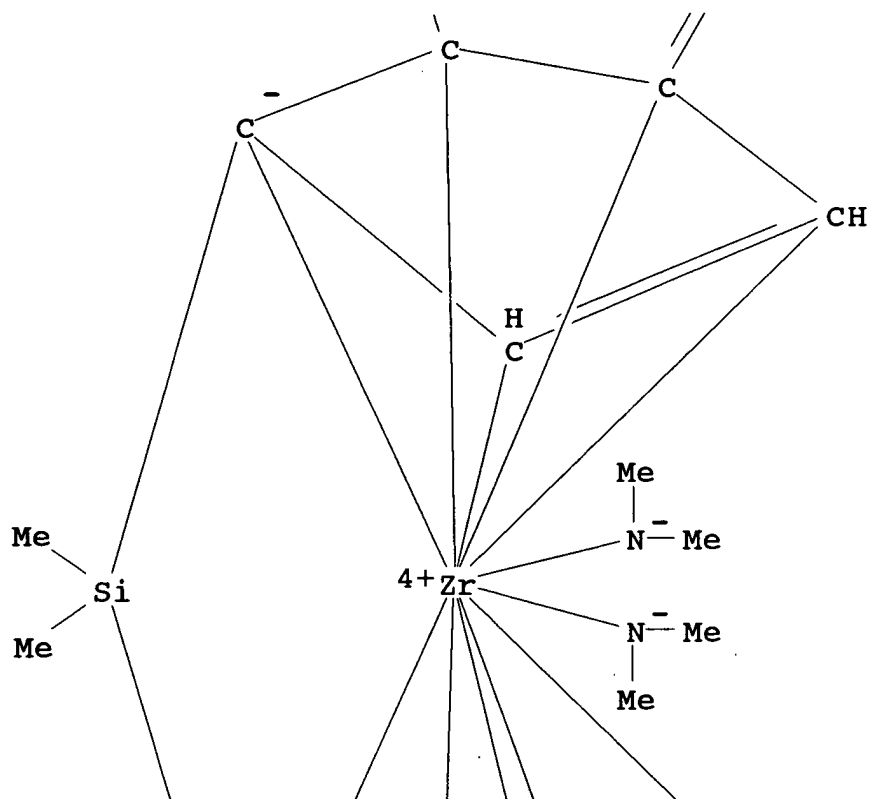


RN 174081-14-2 CAPLUS
CN Zirconium, [(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]bis(N-methylmethanaminato)-, stereoisomer (9CI) (CA INDEX NAME)

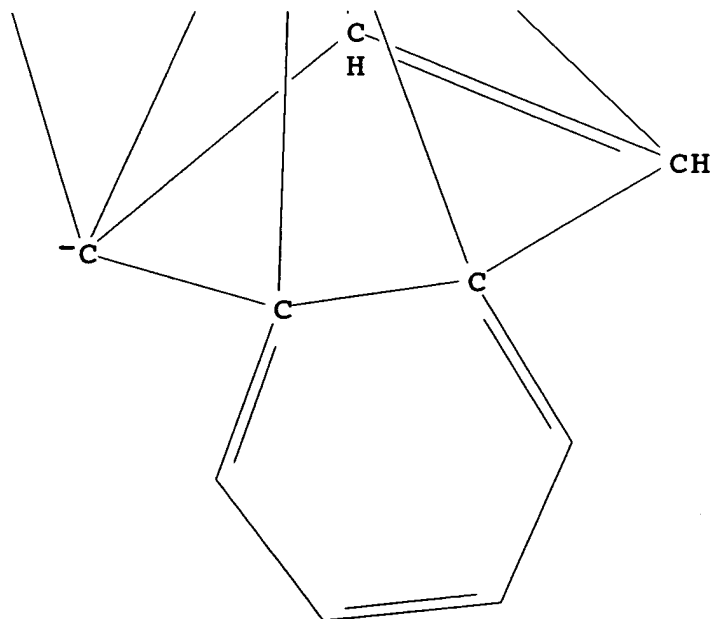
PAGE 1-A



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PAGE 3-A



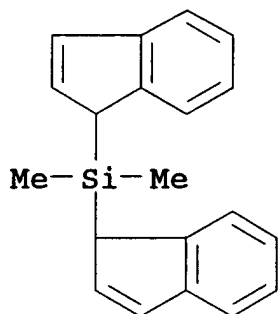
IT 18666-26-7

RL: RCT (Reactant)

(synthesis of ansa-metallocene olefin polymn. catalysts)

RN 18666-26-7 CAPLUS

CN Silane, di-1H-inden-1-ylidimethyl- (9CI) (CA INDEX NAME)



L49 ANSWER 7 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1996:106882 CAPLUS

DN 124:177043

TI The synthesis, characterization and polymerization behavior of ansa cyclopentadienyl fluorenyl complexes; the X-ray structures of the complexes $[(C_{13}H_8)SiR_2(C_5H_4)]ZrCl_2$ (R = Me or Ph)

AU Patsidis, Konstantinos; Alt, Helmut G.; Milius, Wolfgang; Palackal, Syriac J.

CS Laboratorium fuer Anorganische Chemie, Universitaet Bayreuth, Bayreuth, D-95440, Germany

SO J. Organomet. Chem. (1996), 509(1), 63-71

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

LA English

OS CJELSEVIER

AB The prepn. and characterization of the ansa metallocene complexes $[(C_{13}H_8)XR_2(C_5H_4)]ZrCl_2$, $[(2,7-R_{12}C_{13}H_6)SiR_2(C_5H_4)]ZrCl_2$ and $[(2,7-R_{12}C_{13}H_6)SiR_2(C_{13}H_8)]ZrCl_2$ (X = Si or Ge; R = Me or Ph; R₁ = tert-Bu) are reported. The crystal structures of $[(C_{13}H_8)SiR_2(C_5H_4)]ZrCl_2$ (R = Me, or Ph) were detd. and discussed. The complexes are compared with respect to their behavior in the polymn. of propylene.

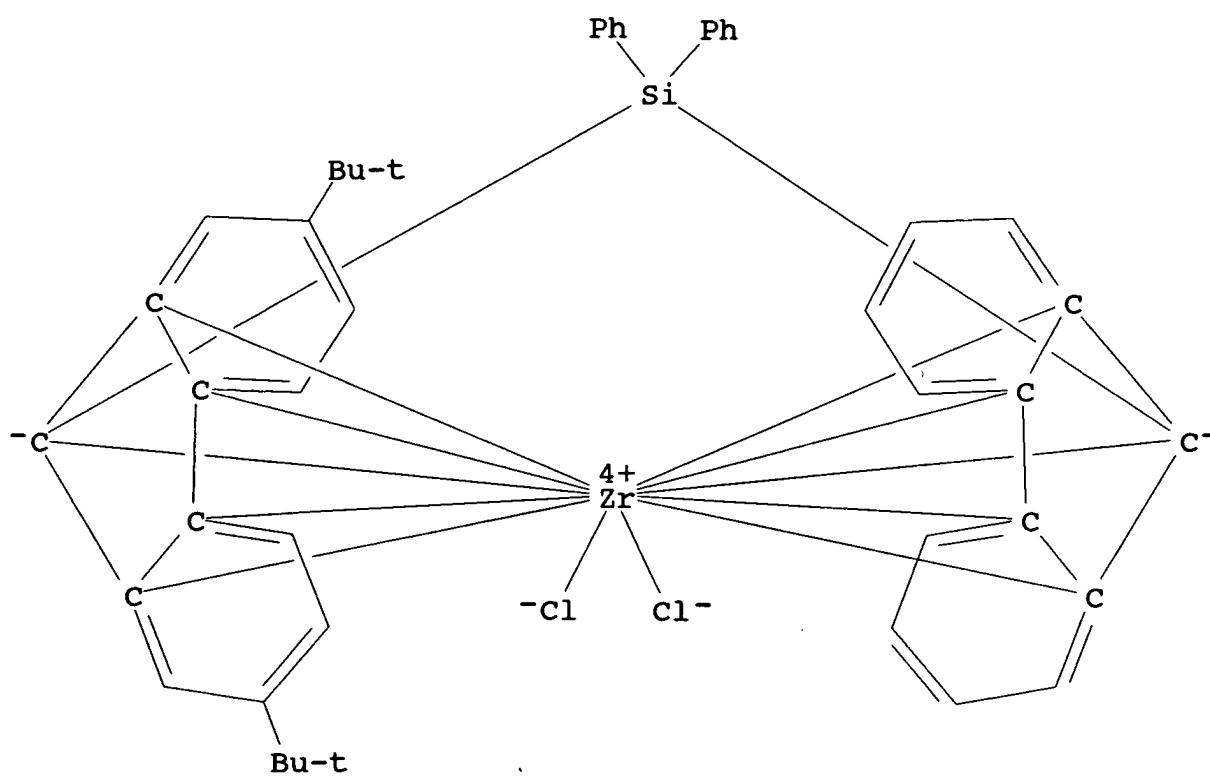
IT 164718-66-5P 167268-08-8P

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

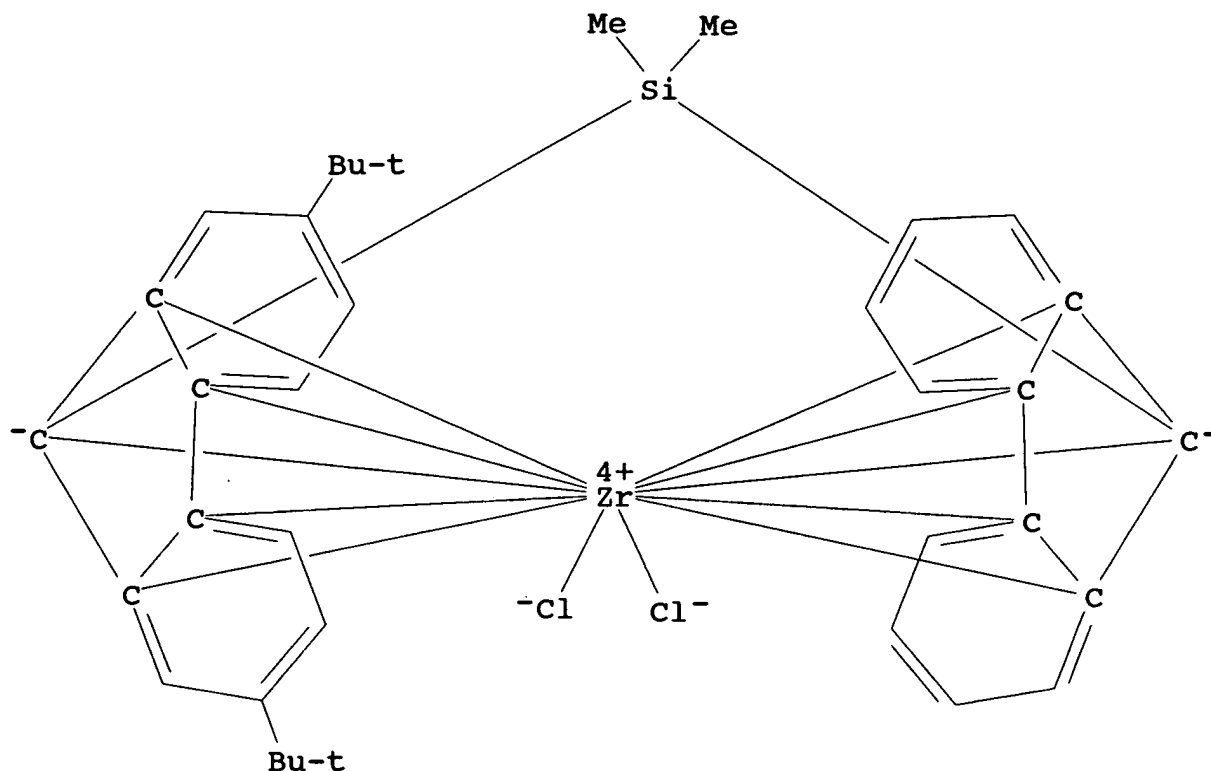
(catalyst; synthesis, characterization and polymn. behavior of ansa cyclopentadienyl fluorenyl complexes)

RN 164718-66-5 CAPLUS

CN Zirconium, [.eta.-10-[2,7-bis(1,1-dimethylethyl)-9H-fluoren-9-ylidene](diphenylsilylene)-9H-fluoren-9-ylidene]dichloro- (9CI) (CA INDEX NAME)



RN 167268-08-8 CAPLUS
CN Zirconium, [.eta.10-[2,7-bis(1,1-dimethylethyl)-9H-fluoren-9-ylidene](dimethylsilylene)-9H-fluoren-9-ylidene]dichloro- (9CI) (CA INDEX NAME)



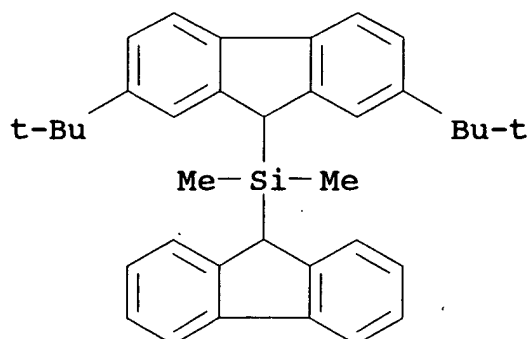
IT 167268-10-2P 174096-86-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(intermediate, reactant; synthesis, characterization and polymn. behavior of ansa cyclopentadienyl fluorenyl complexes)

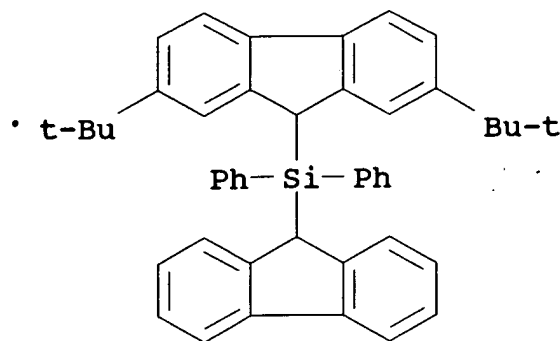
RN 167268-10-2 CAPLUS

CN Silane, [2,7-bis(1,1-dimethylethyl)-9H-fluoren-9-yl]-9H-fluoren-9-yldimethyl- (9CI) (CA INDEX NAME)

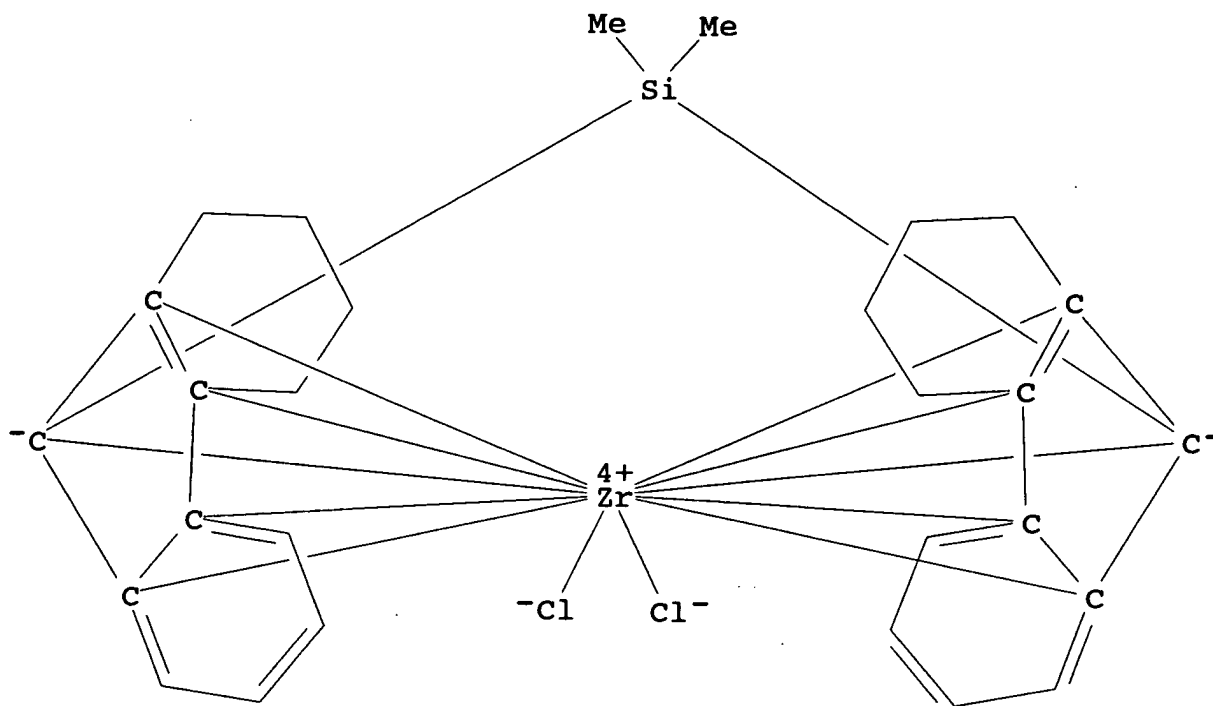


RN 174096-86-7 CAPLUS

CN Silane, [2,7-bis(1,1-dimethylethyl)-9H-fluoren-9-yl]-9H-fluoren-9-yldiphenyl- (9CI) (CA INDEX NAME)

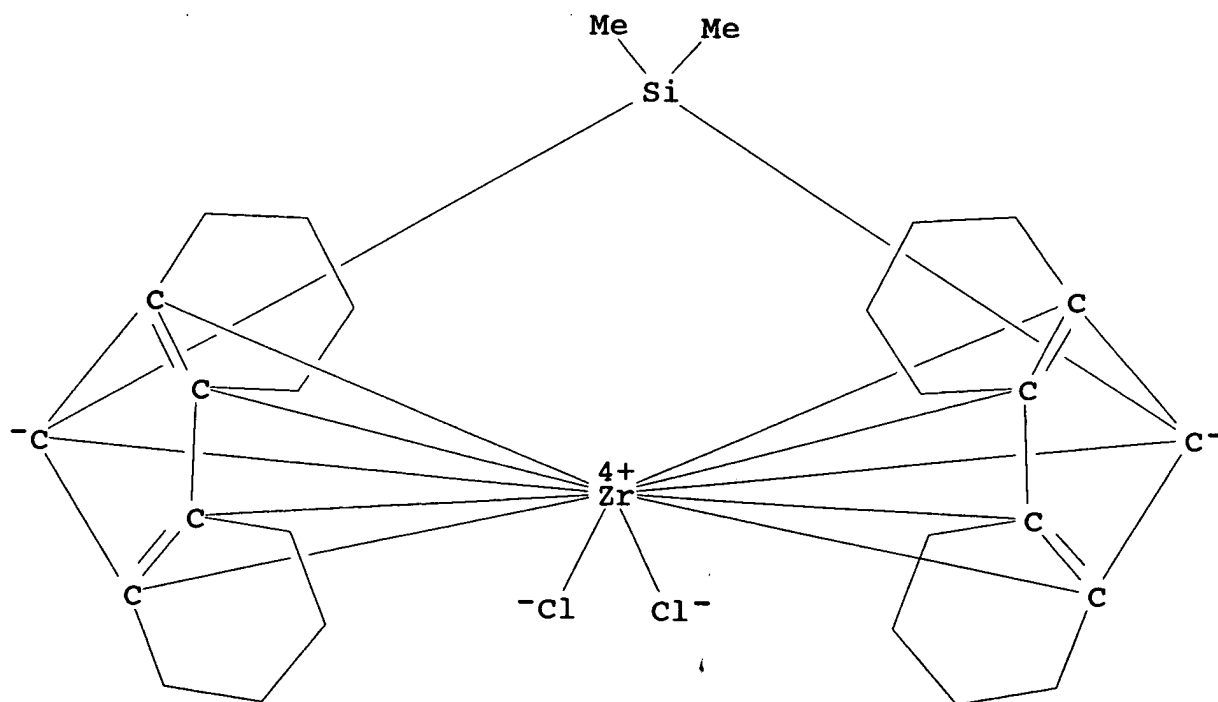


L49 ANSWER 8 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:996646 CAPLUS
DN 124:88148
TI Metallocenes and their use as catalysts for olefin polymerization
IN Bishop, Clyde E.; Jones, Robert L.; Raman, Krishna; Dang, Vu Anh;
Yu, Lin-Chen; Resconi, Luigi; Dall'Occo, Tiziano; Galimberti,
Maurizio
PA Spherilene S.p.A., Italy
SO PCT Int. Appl., 62 pp.
CODEN: PIXXD2
PI WO 9527717 A1 951019
DS W: CA, CN, FI, JP, KR, RU
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
AI WO 95-EP1200 950331
PRAI IT 94-MI645 940406
DT Patent
LA English
OS MARPAT 124:88148
AB Bridged or unbridged metallocenes are prepd. in which the
cyclopentadienyl ligands have 2 or 4 adjacent substituents which
complete 1 or 2 C4-8 cycloalkylene groups. The metallocenes are
useful as catalyst components for the polymn. of olefins, esp. the
(co)polymn. of ethylene and the polymn. of propene. Cyclohexene and
BzOH were used to prep. 2,3-cyclotetramethyleneindene which was
reacted with Me₂SiCl₂ to give bis(2,3-cyclotetramethyleneinden-1-
yl)dimethylsilane (I). Reacting I with ZrCl₄ gave
dimethylsilanediylbis(2,3-cyclotetramethyleneinden-1-yl)zirconium
dichloride which was used with iso-Bu₃Al in a catalyst system for
the polymn. of ethylene.
IT 172942-37-9P 172942-38-0P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(prepn. and use in catalyst systems for polymn. of olefins)
RN 172942-37-9 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(4a,4b,8a,9,9a-eta.)-
1,2,3,4-tetrahydro-9H-fluoren-9-ylidene]]- (9CI) (CA INDEX NAME)



RN 172942-38-0 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(4a,4b,8a,9,9a-eta.)-1,2,3,4,5,6,7,8-octahydro-9H-fluoren-9-ylidene]]- (9CI) (CA INDEX NAME)



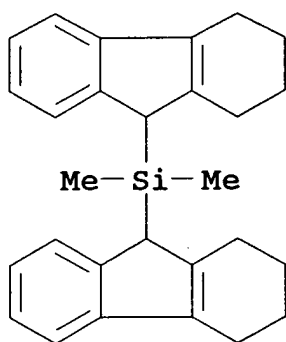
Searched by Barb O'Bryen, STIC 308-4291

IT 172942-34-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation)
(prepn. for use in prepn. of metallocenes)

RN 172942-34-6 CAPLUS

CN Silane, dimethylbis(2,3,4,9-tetrahydro-1H-fluoren-9-yl)- (9CI) (CA
INDEX NAME)



L49 ANSWER 9 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1995:996580 CAPLUS

DN 124:88184

TI Process for producing propylene polymer compositions with good
balance of rigidity and heat and impact resistance

IN Ueda, Takashi; Hashimoto, Mikio; Kawasaki, Masaaki; Fukuoka,
Daisuke; Imuta, Junichi

PA Mitsui Petrochemical Industries, Ltd., Japan

SO PCT Int. Appl., 77 pp.

CODEN: PIXXD2

PI WO 9527740 A1 951019

DS W: CA, CN, JP, KR, US

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

AI WO 95-JP707 950411

PRAI JP 94-72273 940411

DT Patent

LA Japanese

OS MARPAT 124:88184

AB The title process involves polymn. steps of (a) producing a
propylene polymer, (b) producing a propylene-olefin copolymer, and
(c) producing an ethylene-olefin copolymer in an arbitrary order in
the presence of a transition metal compd. (A) contg. a ligand having
a cyclopentadienyl skeleton and a compd. (B) capable of activating
the compd. (A), without isolation of polymers obtained in preceding
steps to obtain polymer compns. contg. 20-90% polymer a, 5-75%
polymer b, and 5-75% polymer c, with melt flow rate (230.degree.,
2.16 kg load) 0.01-500 g/10 min. A mixt. of methylaluminoxane and
rac-dimethylsilylenebis[1-[2-propyl-4-(9-
phenanthryl)indenyl]]zirconium dichloride was activated by polymg.
propylene in the presence of triisobutylaluminum to obtain a solid
catalyst component. Propylene was polymd. in the presence of H, the
above solid catalyst component, and triisobutylaluminum, followed by

Searched by Barb O'Bryen, STIC 308-4291

polymn. of ethylene-1-butene mixt. to obtain a compn. with limiting viscosity 2.5 dL/g, Izod impact strength 35 kg-cm/cm at 23.degree., melt flow rate 16 g/10 min, flexural modulus 11,300 kg/cm², elongation 350%, and heat-distortion temp. 105.degree..

IT 164719-16-8P

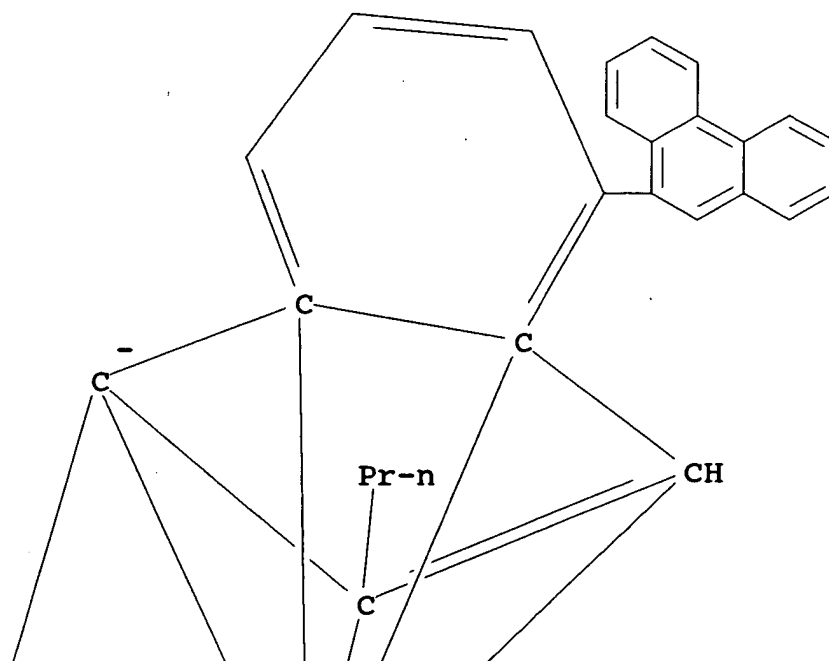
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(producing propylene polymer compns. having good balance of rigidity and heat and impact resistance)

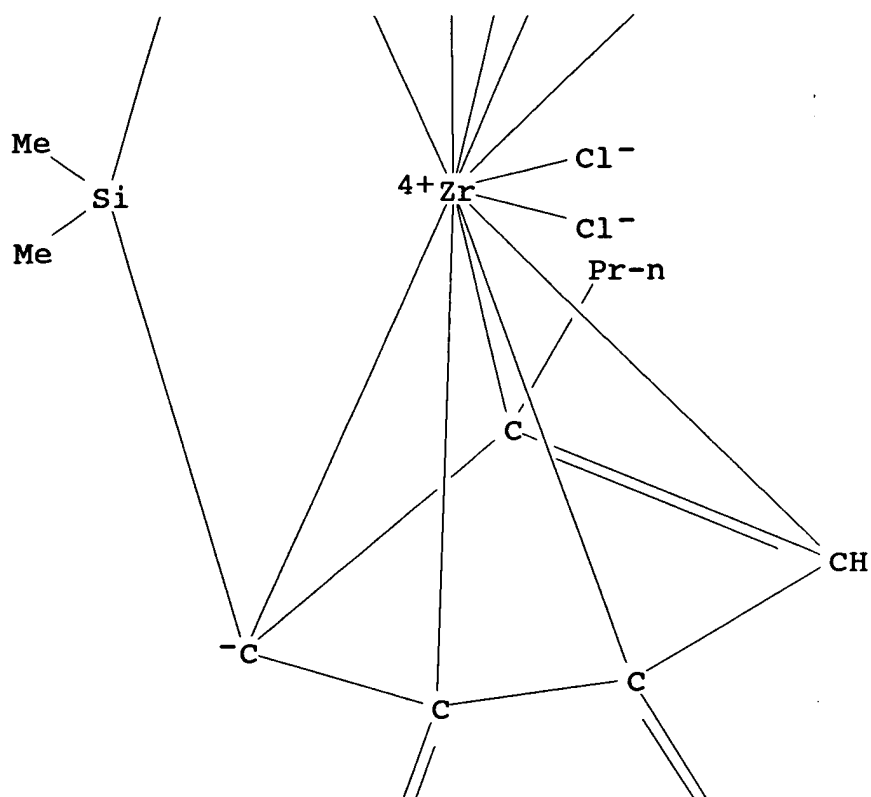
RN 164719-16-8 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-4-(9-phenanthrenyl)-2-propyl-1H-inden-1-ylidene]]-, stereoisomer (9CI)
(CA INDEX NAME)

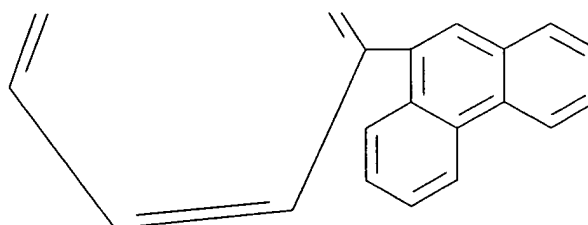
PAGE 1-A



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IT 172651-01-3P

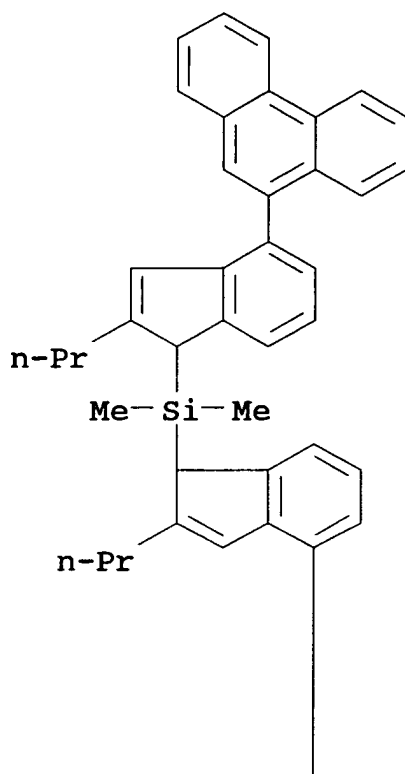
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation)

(producing propylene polymer compns. having good balance of
rigidity and heat and impact resistance)

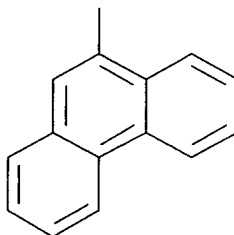
RN 172651-01-3 CAPLUS

CN Silane, dimethylbis[4-(9-phenanthrenyl)-2-propyl-1H-inden-1-yl]-
(9CI) (CA INDEX NAME)

PAGE 1-A



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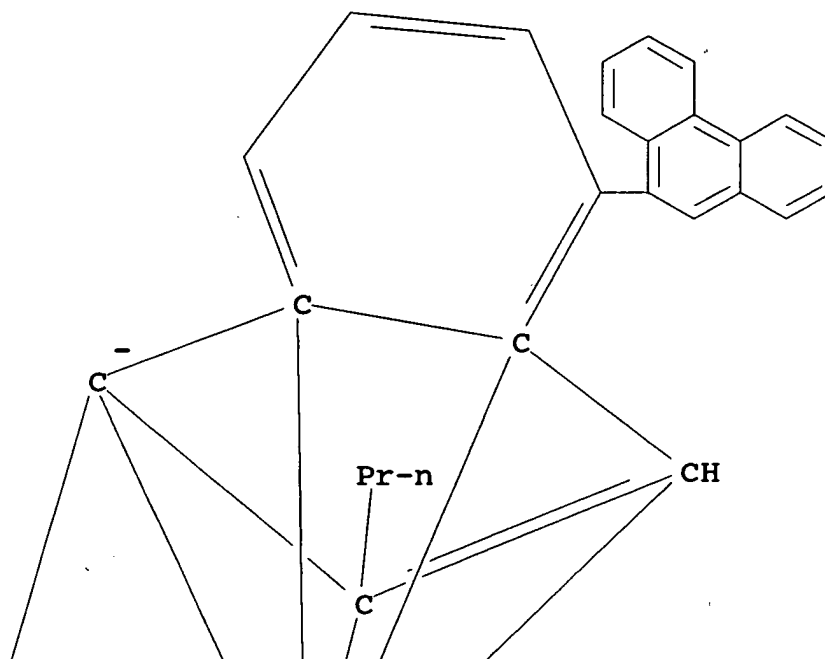


L49 ANSWER 10 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:996579 CAPLUS
DN 124:88183
TI Process for producing propylene polymer compositions having good
balance of rigidity and heat and impact resistance
IN Ueda, Takashi; Hashimoto, Mikio; Kawasaki, Masaaki; Fukuoka,
Daisuke; Imuta, Junichi
PA Mitsui Petrochemical Industries, Ltd., Japan
SO PCT Int. Appl., 112 pp.
CODEN: PIXXD2
PI WO 9527741 A1 951019

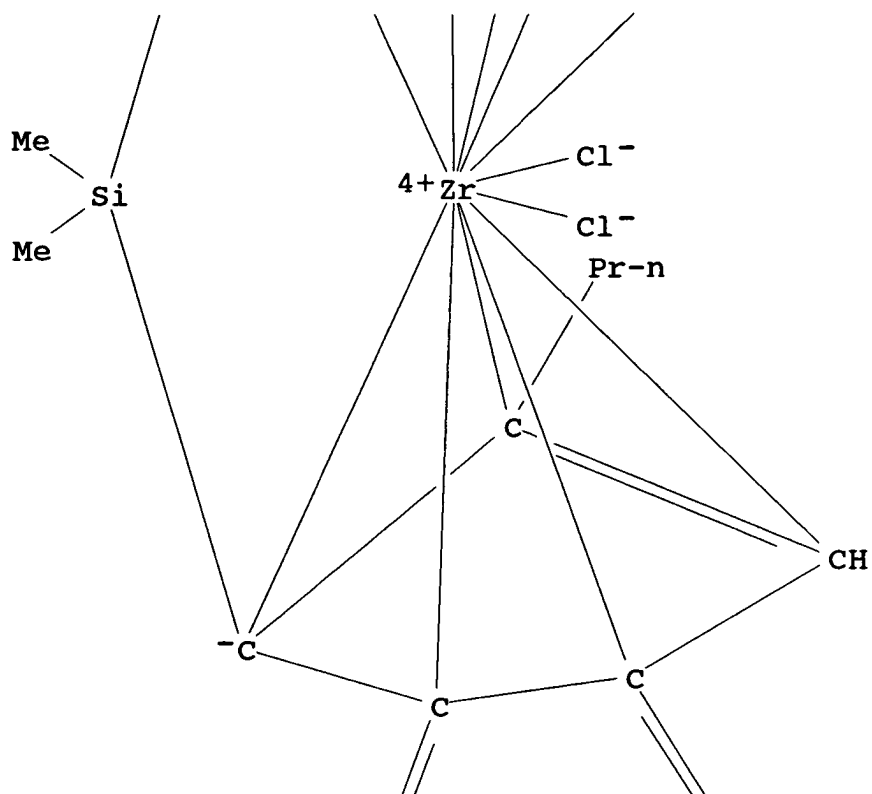
Searched by Barb O'Bryen, STIC 308-4291

DS W: CA, CN, JP, KR, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
AI WO 95-JP708 950411
PRAI JP 94-72297 940411
JP 94-72308 940411
DT Patent
LA Japanese
OS MARPAT 124:88183
AB The title process involves polymn. steps of (a) producing a propylene polymer, (b) producing a propylene-olefin copolymer, and (c) producing an ethylene-olefin copolymer in an arbitrary order in the presence of a transition metal compd. (A) contg. a ligand having a cyclopentadienyl skeleton and a compd. (B) capable of activating the compd. (A), without isolation of polymers obtained in preceding steps to obtain polymer compns. contg. 20-90% polymer a, 5-75% polymer b, and 5-75% polymer c, with melt flow rate (230.degree., 2.16 kg load) 0.01-500 g/10 min. A mixt. of methylaluminoxane and rac-dimethylsilylenebis[1-[2-propyl-4-(9-phenanthryl)indenyl]]zirconium dichloride was activated by polymg. propylene in the presence of triisobutylaluminum to obtain a solid catalyst component. Propylene was polymd. in the presence of H, the above solid catalyst component, and triisobutylaluminum, followed by polymn. of ethylene-propylene mixt. then another ethylene-propylene mixt. to obtain a compn. with limiting viscosity 2.5 dL/g, Izod impact strength 40 (4.6) kg-cm/cm at +23.degree. (-30.degree.), melt flow rate 10 g/10 min, flexural modulus 12,700 kg/cm², elongation 560%, and heat-distortion temp. 100.degree..
IT 164719-16-8P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(producing propylene polymer compns. having good balance of rigidity and heat and impact resistance)
RN 164719-16-8 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-4-(9-phenanthrenyl)-2-propyl-1H-inden-1-ylidene]]-, stereoisomer (9CI)
(CA INDEX NAME)

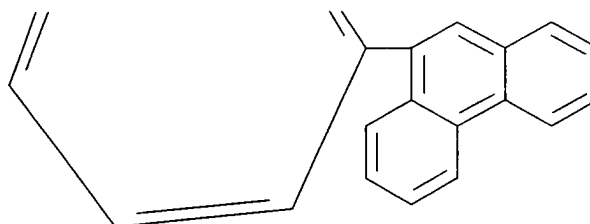
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IT 172651-01-3P

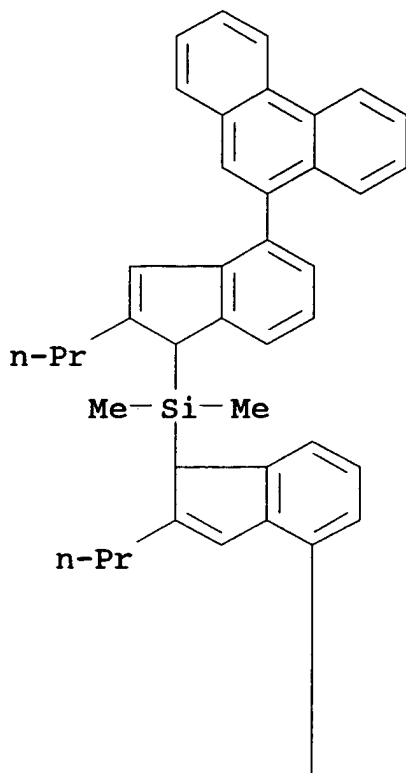
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation)

(producing propylene polymer compns. having good balance of
rigidity and heat and impact resistance)

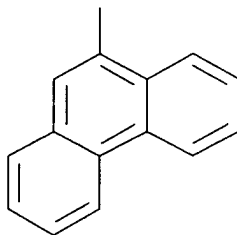
RN 172651-01-3 CAPLUS

CN Silane, dimethylbis[4-(9-phenanthrenyl)-2-propyl-1H-inden-1-yl]-
(9CI) (CA INDEX NAME)

PAGE 1-A



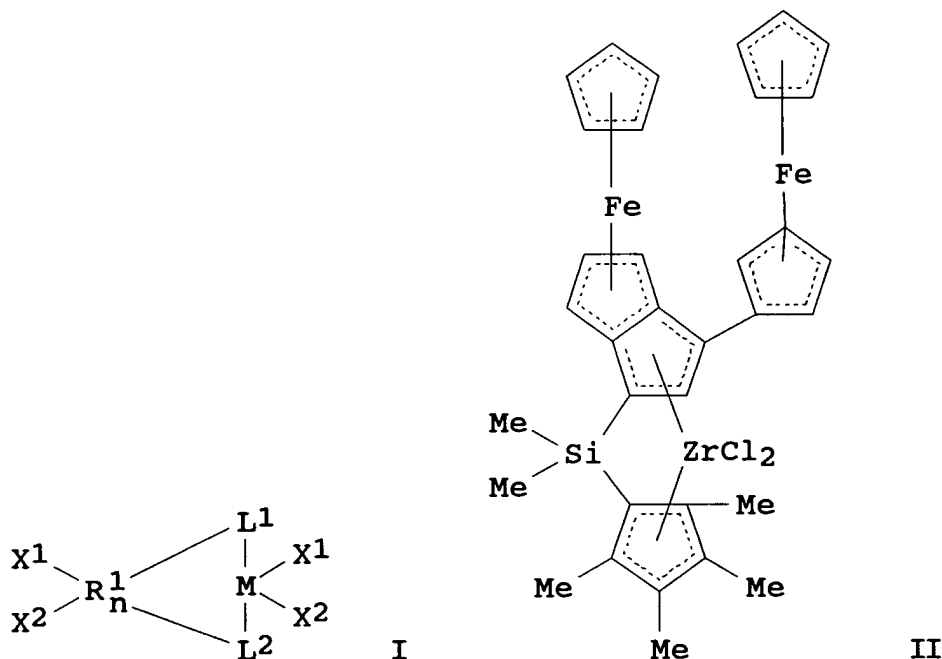
PAGE 2-A



L49 ANSWER 11 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:994500 CAPLUS
DN 124:57003
TI Metallocenes and their manufacture and use in polymerization of
olefins.
IN Schottenberger, Herwig; Reussner, Jens; Buchmeiser, Michael; Neissl,
Wolfgang; Elsner, Olaf; Angleitner, Herbert; Ernst, Eberhard
PA PCD-Polymere Gesellschaft m.b.H., Austria
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
PI EP 673946 A2 950927

Searched by Barb O'Bryen, STIC 308-4291

DS R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE
 AI EP 95-103708 950315
 PRAI AT 94-594 940322
 DT Patent
 LA German
 OS MARPAT 124:57003
 GI



AB Metallocenes I [M = Ti, Zr, Hf, V, Nb, Ta, or lanthanide; X1, X2 = org. group, H, or halo; L1, L2 = (hydrocarbyl-substituted) cyclopentadienyl, [X1-, X2-, ferrocene- or ruthenocene-substituted and(or) condensed] ferrocene or ruthenocene group, or X1- or X2-substituted amido, phosphido, or arsenido; R1 = C, Si, Ge, or Sn, or X1(R1)X2 = (X1- or X2-substituted) biphenylene, n = 0-4] are useful for polymn. of olefins to give polymers with broader mol. wt. distribution than typical Ziegler-Natta catalysts. A typical catalyst II was manufd. by redn. of 4-ferrocenylferroceno[2,3]cyclopenta-2,4-dien-1-one, lithiation of the resulting 3-ferrocenylferroceno[1,2]cyclopenta-1,3-diene (III), reaction of the lithiated III with tetramethylcyclopentadienyldimethylchlorosilane, and complexation of the 3rd intermediate with ZrCl4.2THF.

IT 172318-17-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)

(catalyst precursor; metallocenes for catalysts for polymn. of olefins.)

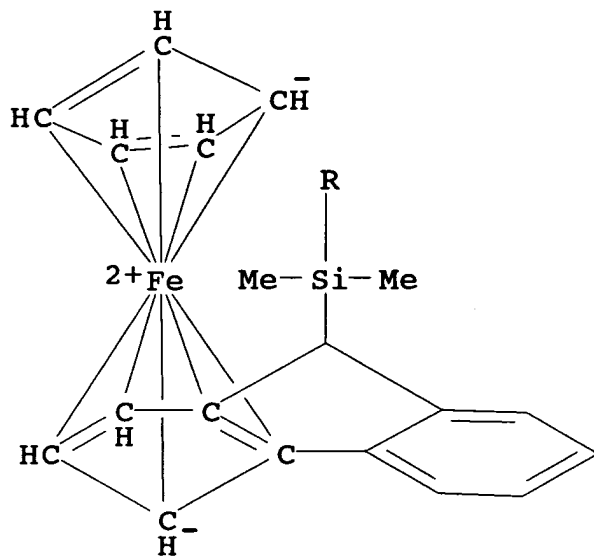
RN 172318-17-1 CAPLUS

CN Iron, bis(.eta.5-2,4-cyclopentadien-1-yl)[.mu.-[(1,2,3,3a,8a-

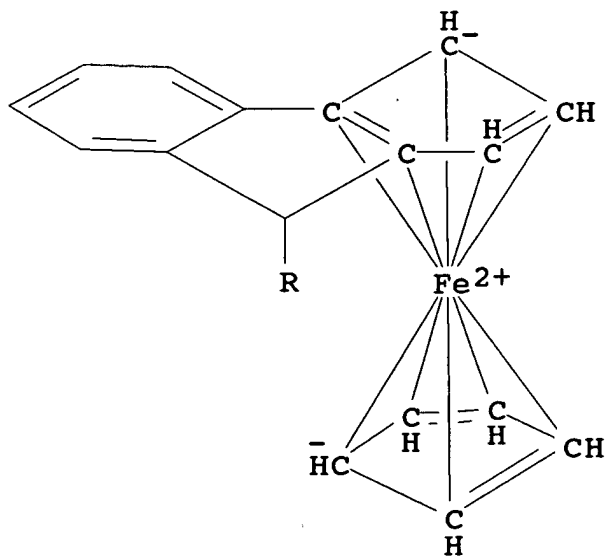
Searched by Barb O'Bryen, STIC 308-4291

.eta.:1',2',3',3'a,8'a-.eta.)-(dimethylsilylene)bis(cyclopent[a]indene-8,1-diyl)]di- (9CI) (CA INDEX NAME)

PAGE 1-A



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IT 172318-15-9P 172318-16-0P 172318-22-8P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(metallocenes for catalysts for polymn. of olefins.)

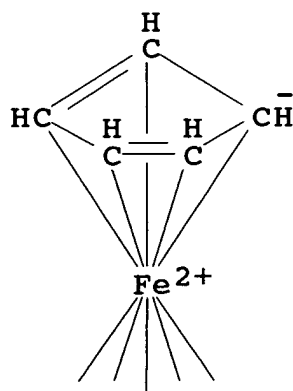
RN 172318-15-9 CAPLUS

CN Hafnium, dichloro[(.eta.5-2,4-cyclopentadien-1-yl)iron][.mu.-

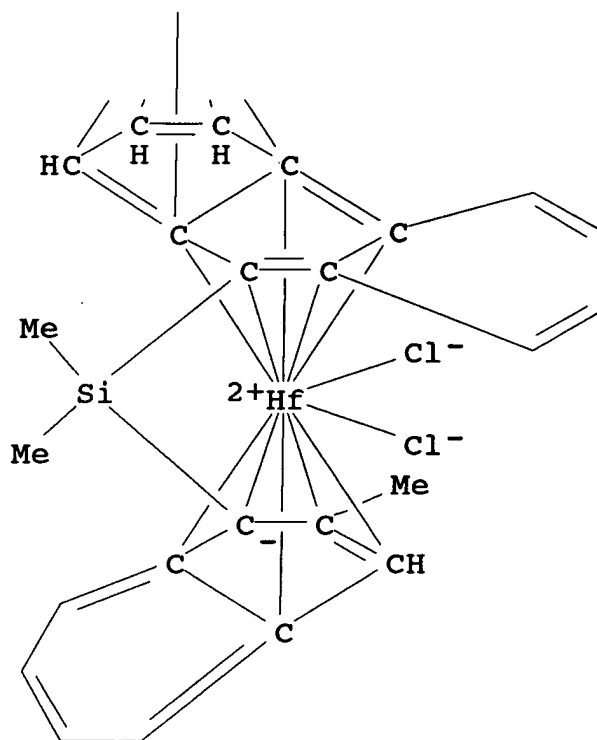
Searched by Barb O'Bryen, STIC 308-4291

[.eta.5:.eta.10-1-(cyclopent[a]inden-8-yldimethylsilyl)-2-methyl-1H-inden-1-yl]]- (9CI) (CA INDEX NAME)

PAGE 1-A

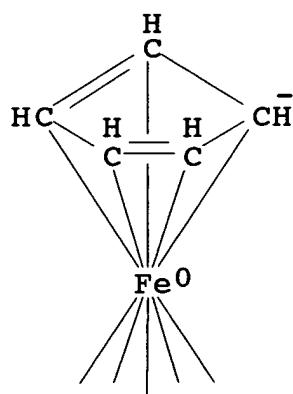


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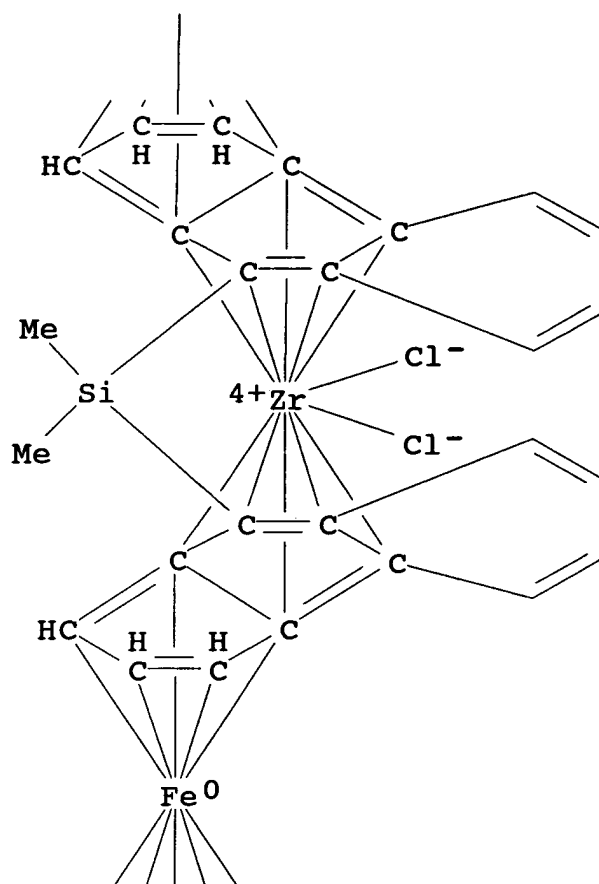


RN 172318-16-0 CAPLUS
CN Zirconium, [μ_3 -[.eta.5:.eta.5:.eta.10-bis(cyclopent[a]inden-8-yl)dimethylsilane]]dichlorobis[(.eta.5-2,4-cyclopentadien-1-yl)iron]-(9CI) (CA INDEX NAME)

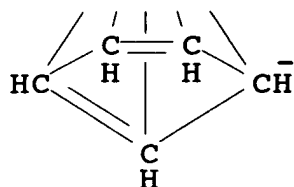
PAGE 1-A



PAGE 2-A

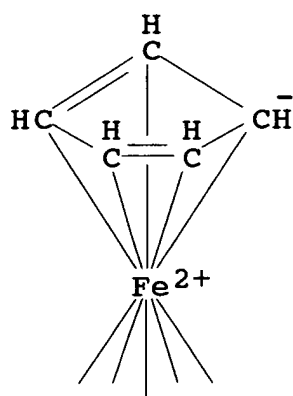


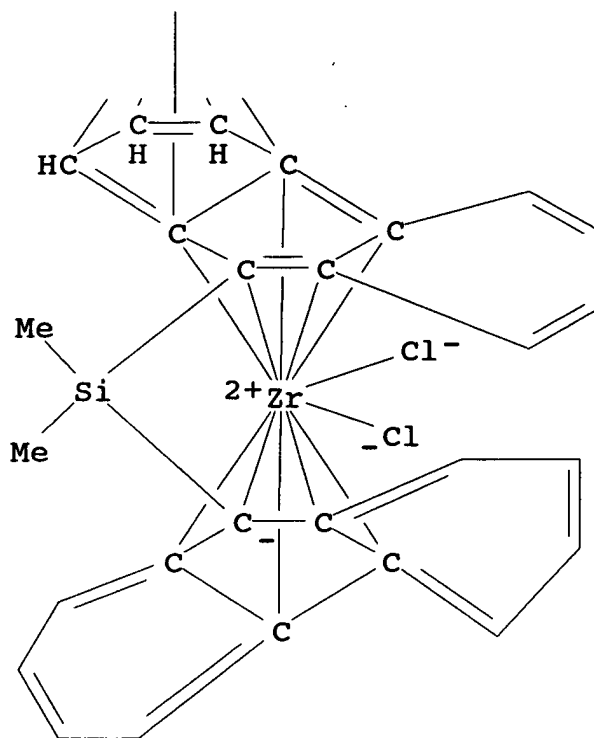
PAGE 3-A



RN 172318-22-8 CAPLUS
 CN Zirconium, dichloro[(.eta.5-2,4-cyclopentadien-1-yl)iron][.mu.-
 [.eta.5:.eta.10-9-(cyclopent[a]inden-8-yl)dimethylsilyl]-9H-fluoren-9-
 yl]]- (9CI) (CA INDEX NAME)

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L49 ANSWER 12 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1995:986319 CAPLUS

DN 124:9649

TI Supported metallocene complexes with heterofunctional groups on the cyclopentadienyl system for use as polymerization catalysts

IN Langhauser, Franz; Fischer, David; Kerth, Juergen; Schweier, Guenther; Barsties, Elke; Brintzinger, Hans-Herbert; Schaible, Stefan; Roell, Werner

PA BASF A.-G., Germany

SO Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

PI EP 670336 A1 950906

DS R: BE, DE, ES, FR, GB, IT, NL

AI EP 95-102479 950222

PRAI DE 94-4406964 940303

DT Patent

LA German

OS MARPAT 124:9649

AB Catalysts for polymn. of olefins are prepd. by depositing bridged Ti, Zr, Hf, V, Nb, or Ta metallocene derivs. of specified structure on fine, silanized supports. Treating 2-(dimethylamino)indene in Et₂O with BuLi and then with Me₂SiCl₂ gave 48% 1,1'-(dimethylsilylene)bis[2-(dimethylamino)indene], treatment of which with BuLi and ZrCl₄ gave 36% corresponding zirconocene deriv. (I). Use of I with aluminoxanes in the polymn. of C₃H₆ is exemplified.

IT 171492-19-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

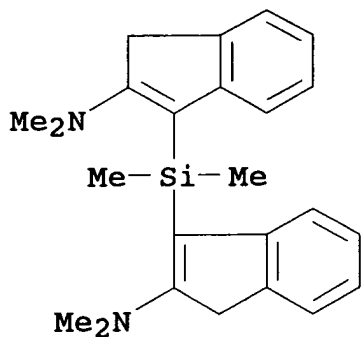
Searched by Barb O'Bryen, STIC 308-4291

(Preparation)

(a hprepn. and reaction with zirconium tetrachloride)

RN 171492-19-6 CAPLUS

CN 1H-Inden-2-amine, 3,3'-(dimethylsilylene)bis[N,N-dimethyl- (9CI)
(CA INDEX NAME)



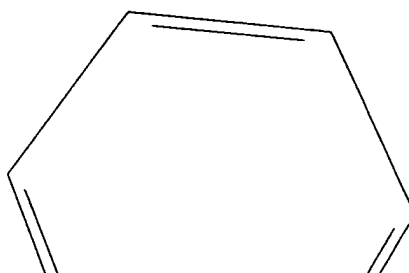
IT 171407-24-2P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PRP
(Properties); PREP (Preparation); USES (Uses)
(supported, for use as polymn. catalysts)

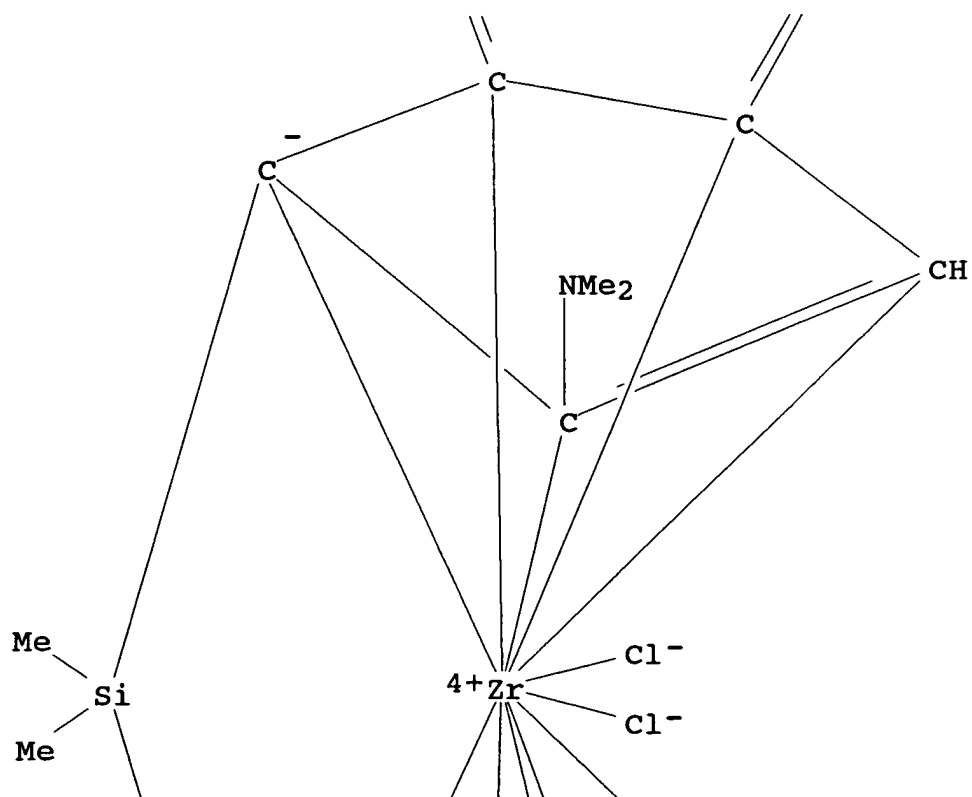
RN 171407-24-2 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-
(dimethylamino)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

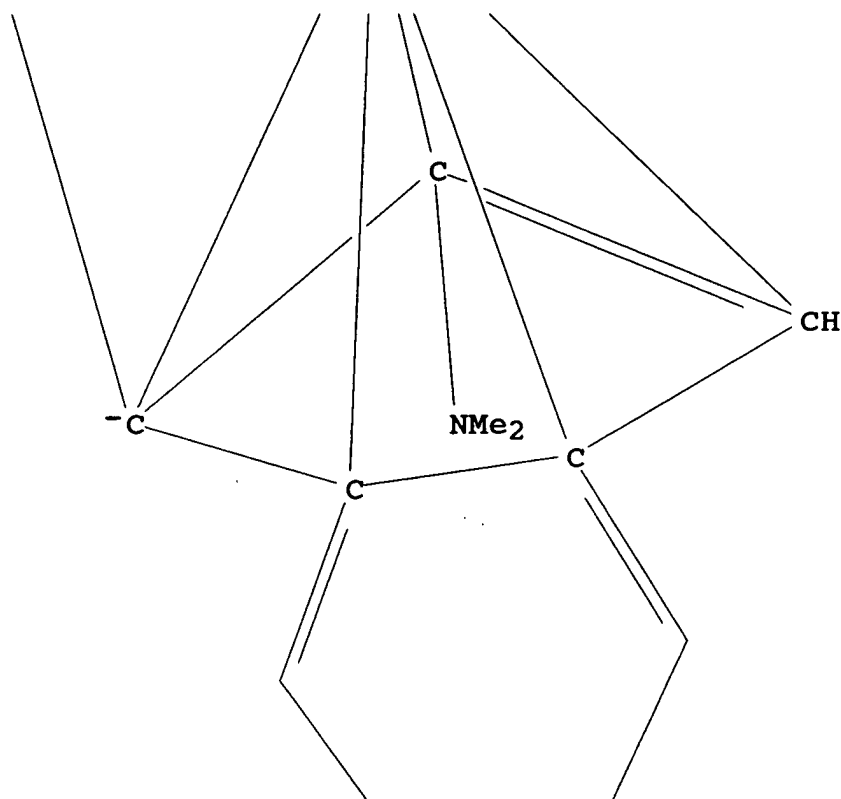
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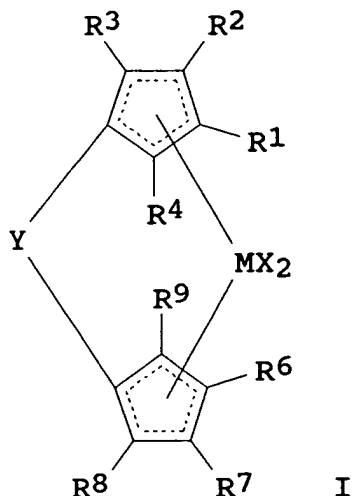
PAGE 4-A



L49 ANSWER 13 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:982334 CAPLUS
DN 124:9650
TI Metallocenes with heterofunctional groups containing fused
cyclopentadienyl groups for polymerization of C2-10-alkenes
IN Langhauser, Franz; Fischer, David; Kerth, Juergen; Schweier,
Guenther; Brintzinger, Hans-Herbert; Barsties, Elke; Roell, Werner
PA BASF A.-G., Germany
SO Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
PI EP 670325 A2 950906
DS R: BE, DE, ES, FR, GB, IT, NL
AI EP 95-102489 950222
PRAI DE 94-4406963 940303
DT Patent
LA German
OS MARPAT 124:9650

Searched by Barb O'Bryen, STIC 308-4291

GI



AB Metallocenes are disclosed, suitable as polymn. catalysts for C2-10-alkenes, that contain heterofunctional groups with fused cyclopentadienyl groups, of general formula I (M = Ti, Zr, Hf, V, Nb, or Ta; X = F, Cl, Br, I, H, C1-10-alkyl, C6-15-aryl or OR5; R5 = C1-10-alkyl, C6-15-aryl, alkylaryl, arylalkyl, C1-10-fluoroalkyl or C6-20-fluoroaryl; R1-3, R6-8 = H, C1-10-alkyl; five- to seven-membered cycloalkyl ring substituted with C1-10-alkyl; C6-15-aryl or arylalkyl (or neighboring groups can also form a fused cyclic ring), SiR103 (R10 = C1-10-alkyl, C6-15-aryl, or C3-10-cycloalkyl)). Ligand systems also include R4 substituents that denote -Q1R11R12, in which Q = N, P, As, Sb, Bi; R11, R12 = C1-10-alkyl, C3-15-cycloalkyl, C6-15-aryl, alkylaryl, arylalkyl, C1-10-fluoroalkyl, or C6-20-fluoroaryl (or R11R12 can form a C2-15-ring contg. 1-8 heteroatoms of Group III to Group V Periodic Table elements); R9 = H, C1-10-alkyl; five- to seven-membered cycloalkyl ring substituted with C1-10-alkyl; C6-15-aryl or arylalkyl (or neighboring groups can also form a fused cyclic ring), SiR133 (R13 = C1-10-alkyl, C6-15-aryl, or C3-10-cycloalkyl). The catalyst systems can also include aluminoxanes.

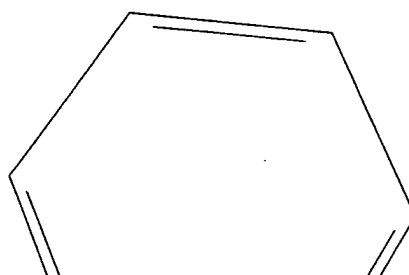
IT 171407-24-2P 171407-26-4P

RL: CAT (Catalyst use); IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(metallocenes with heterofunctional groups contg. fused cyclopentadienyl groups for polymn. of C2-10-alkenes)

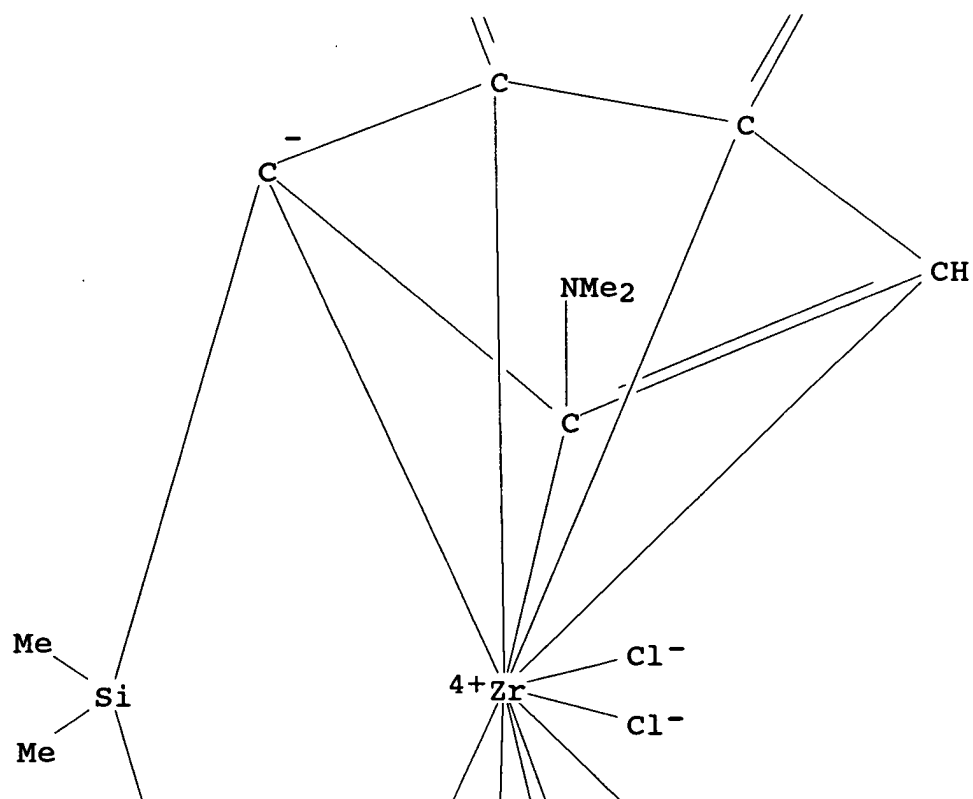
RN 171407-24-2 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-(dimethylamino)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

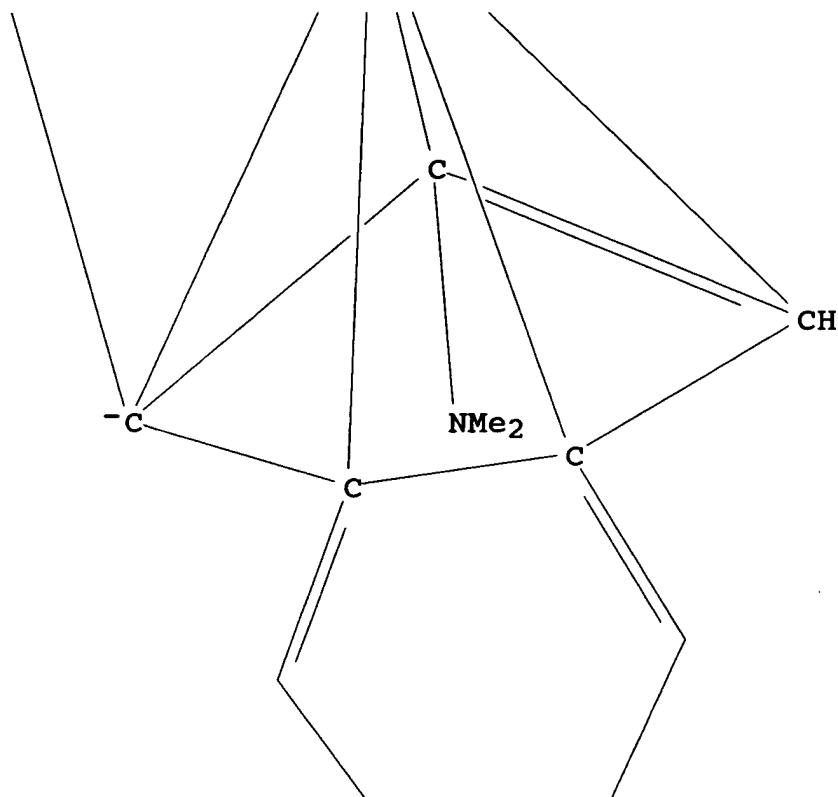
PAGE 1-A



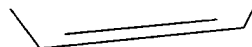
PAGE 2-A



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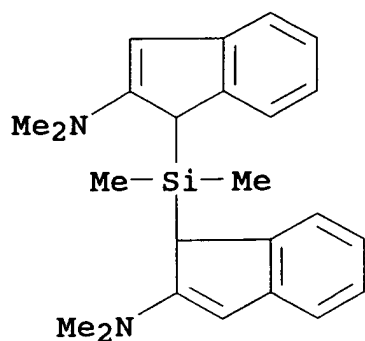
RN 171407-26-4 CAPLUS
 CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-(1-pyrrolidiny)]-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

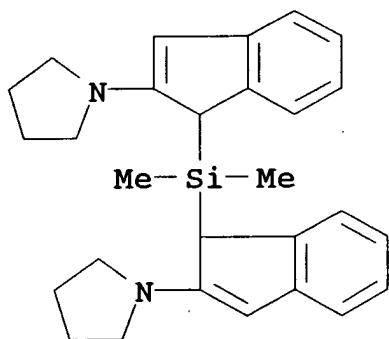
IT 171407-25-3P 171407-27-5P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN
 (Synthetic preparation); PREP (Preparation)
 (prepn. and complexation of)

RN 171407-25-3 CAPLUS
 CN 1H-Inden-2-amine, 1,1'-(dimethylsilylene)bis[N,N-dimethyl- (9CI)
 (CA INDEX NAME)



RN 171407-27-5 CAPLUS
CN Pyrrolidine, 1,1'-[(dimethylsilylene)di-1H-indene-1,2-diyl]bis-
(9CI) (CA INDEX NAME)



L49 ANSWER 14 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:978672 CAPLUS
DN 124:30034
TI Preparation of bridged stereorigid metallocenes
IN Lisowsky, Richard
PA Witco GmbH, Germany
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
PI EP 669340 A1 950830
DS R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, PT, SE
AI EP 94-112299 940805
PRAI DE 94-4406109 940225
DT Patent
LA German
OS CASREACT 124:30034; MARPAT 124:30034
AB The best novel prepn. of title compds. was found to be via the reaction of with magnesium and tin compds. The prepn. of bridged stereorigid metallocenes, $Q(CpRa)(Cp'R'a')M(X)_n$ [Cp = cyclopentadienyl, indenyl, fluorenyl; R, R' = alkyl, phosphino, amino, alkyl ether, aryl ether group with O .ltoreq. a .ltoreq. 4, O .ltoreq. a' .ltoreq. 4; Cp' = cyclopentadienyl group, organoamino substituted cyclopentadienyl; Q = (R1ZR2)b, R1, R2 = same or

Searched by Barb O'Bryen, STIC 308-4291

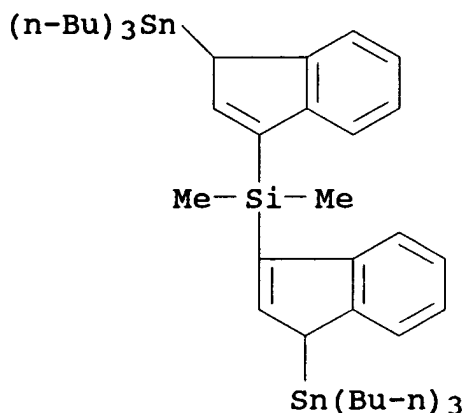
different H, C1-10 alkyl, C6-10 aryl, Z = C, Si, Ge, b = 1-3; M = Group 3-6 transition metal esp. Zr, Hf; X = halo, esp. Cl, Br; n = dependent upon oxidn. of metal, generally 2], useful as polymn. catalysts for olefins, is described. Thus, reaction of BOMAG A with indene in heptane in the presence of butyloctylmagnesium and 1,2-dibromomethane followed by treatment with Bu₃SnCl and ZrCl₄ gave 30% title compd., ethylene(indenyl)ZrCl₂.

IT 171347-41-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of bridged stereorigid metallocenes)

RN 171347-41-4 CAPLUS

CN Silane, dimethylbis[1-(tributylstannyl)-1H-inden-3-yl]- (9CI) (CA INDEX NAME)



IT 121009-93-6P 124684-46-4P 147059-57-2P

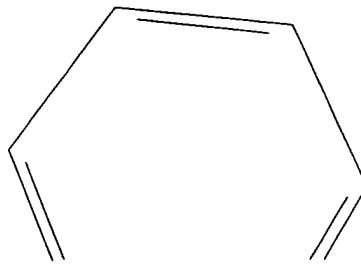
147059-60-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of bridged stereorigid metallocenes)

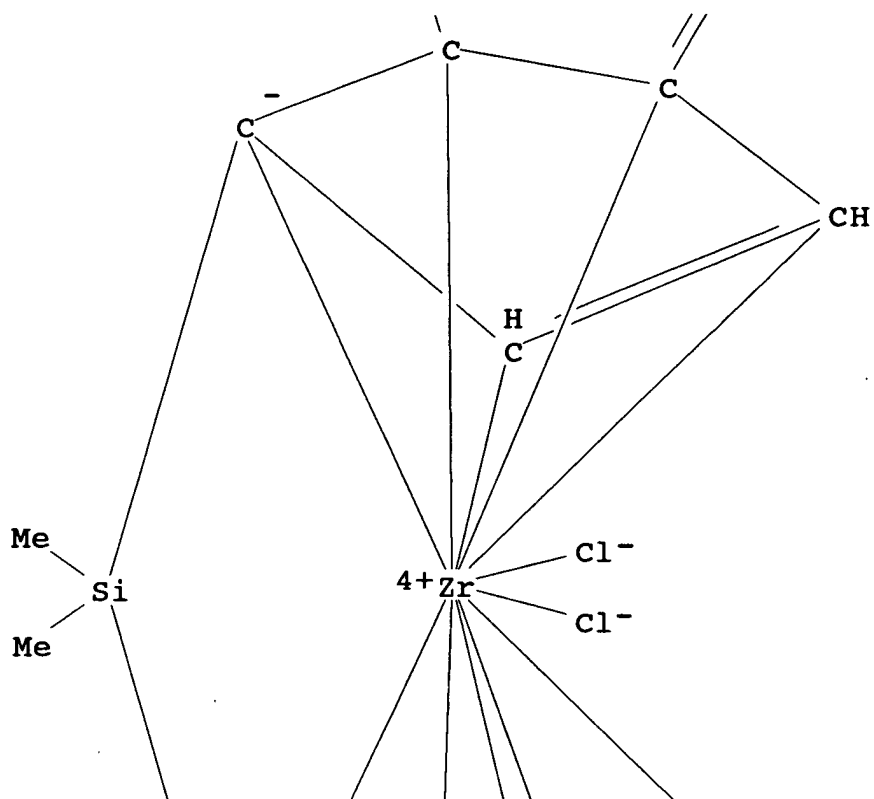
RN 121009-93-6 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

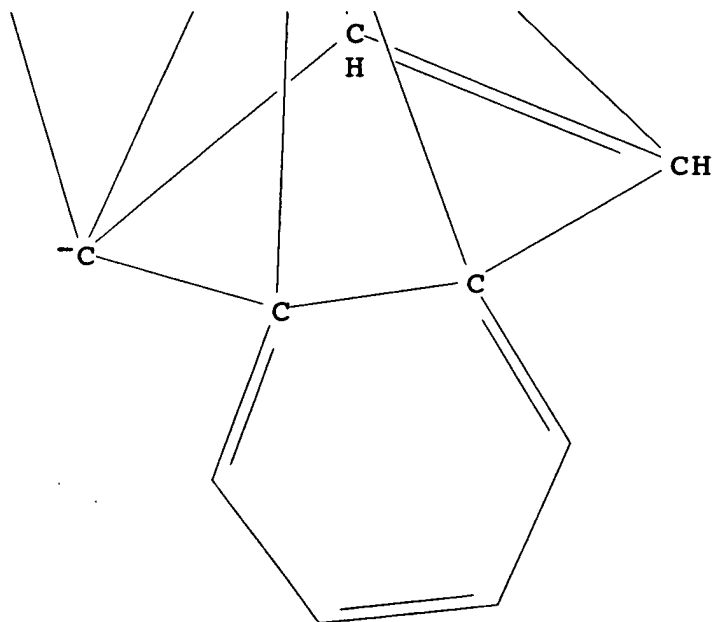
PAGE 1-A



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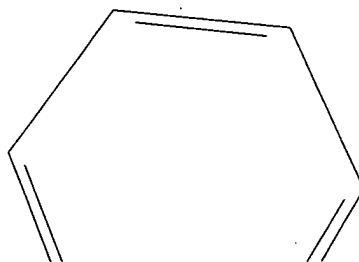


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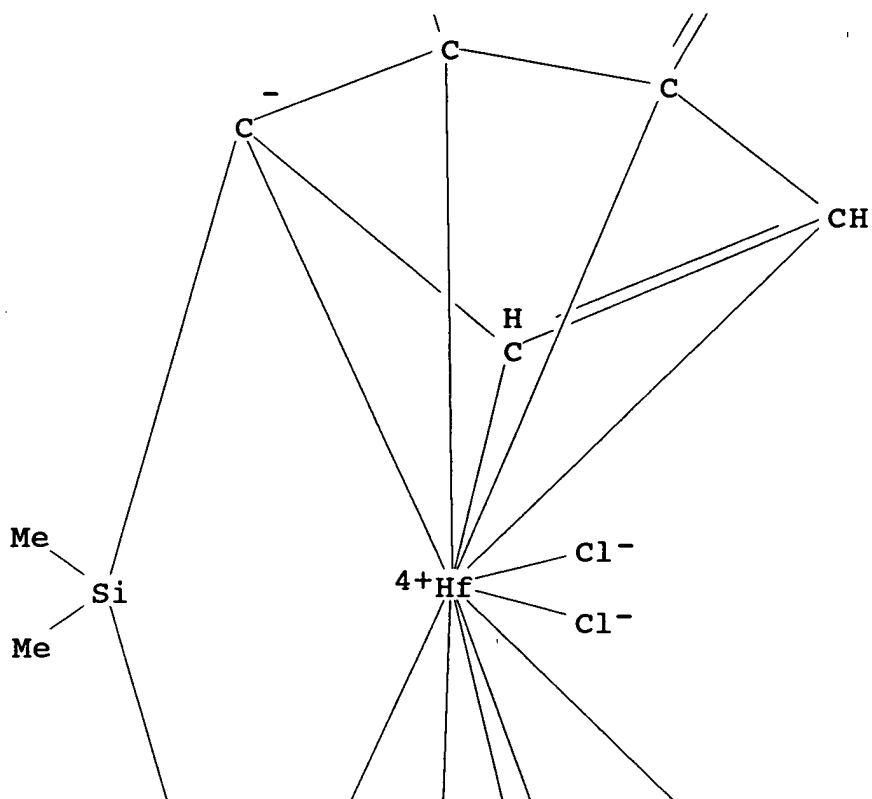


RN 124684-46-4 CAPLUS
CN Hafnium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

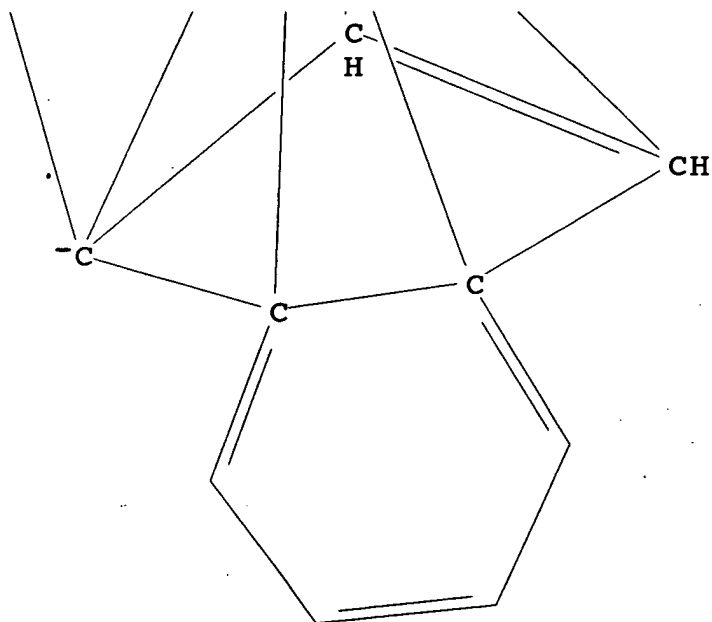
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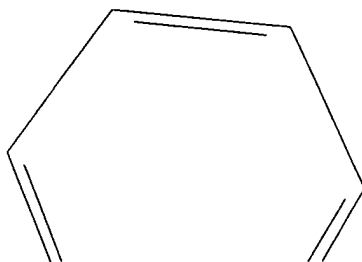


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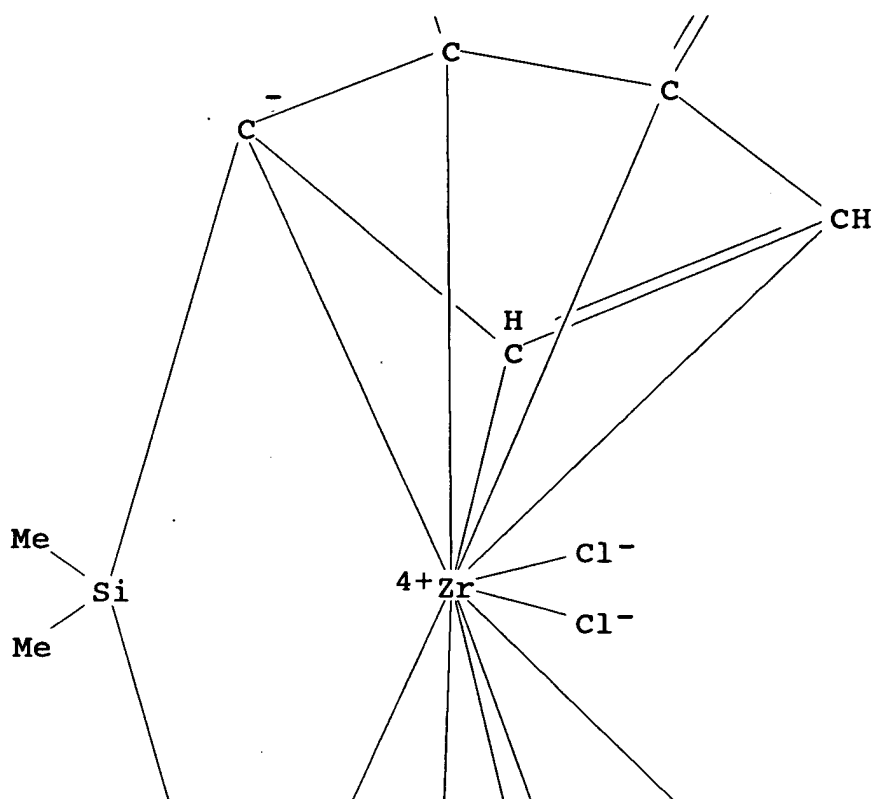


RN 147059-57-2 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

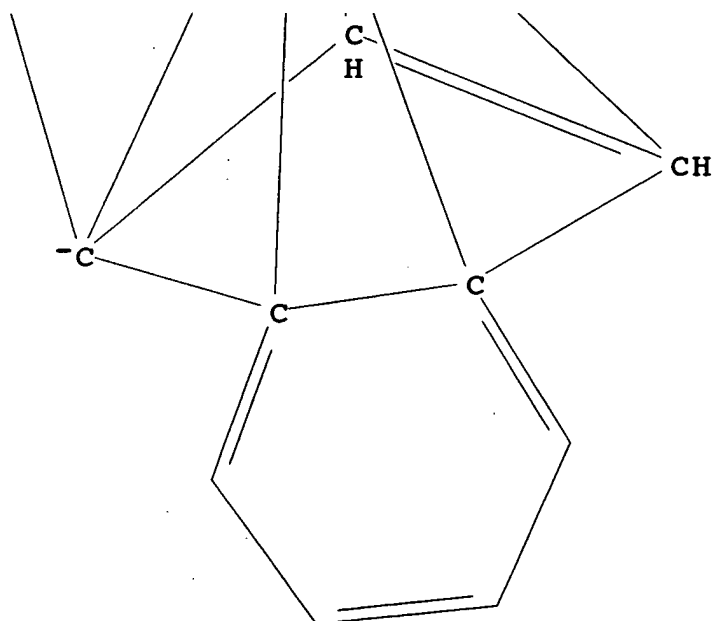
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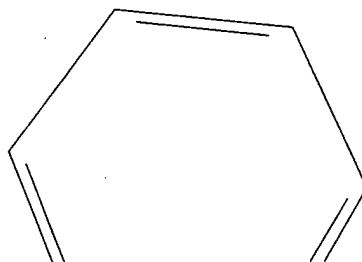
PAGE 3-A



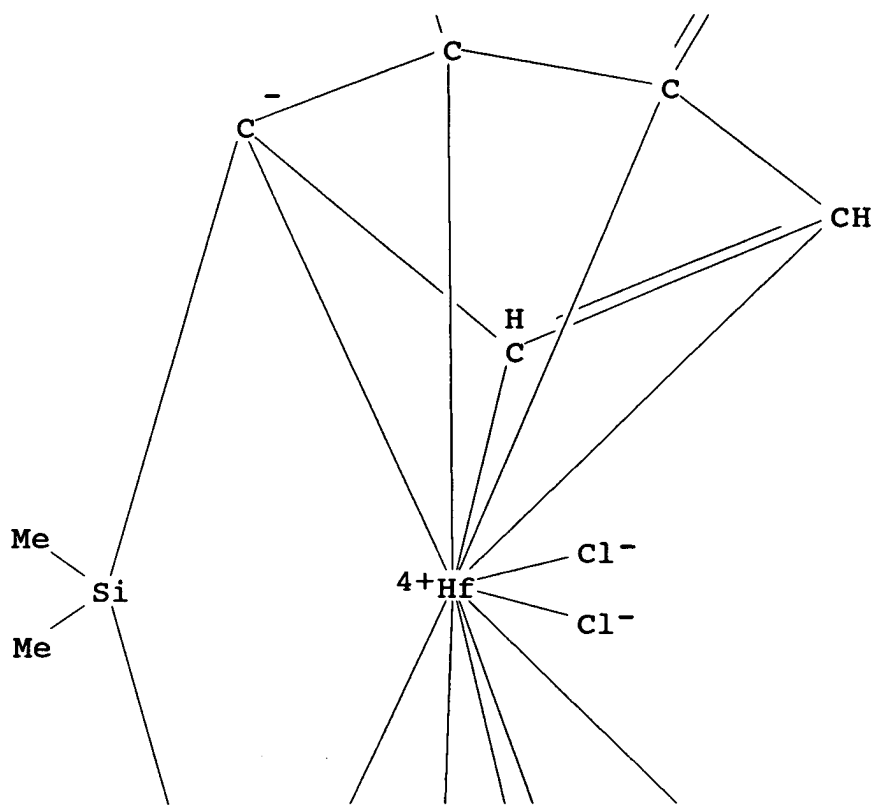
RN 147059-60-7 CAPLUS

CN Hafnium, dichlorobis[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

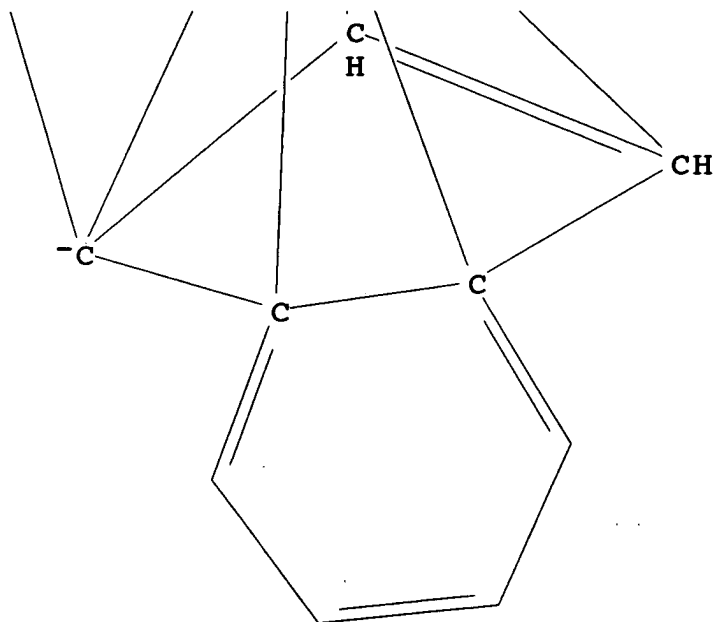
PAGE 1-A



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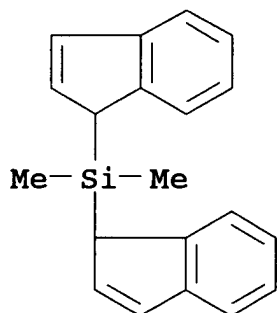
PAGE 3-A



L49 ANSWER 15 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:951787 CAPLUS
DN 124:31779
TI Thermoplastic polyolefin elastomer particles and their manufacture
without granulation
IN Sugano, Toshihiko; Takahama, Tomohiko
PA Mitsubishi Kagaku Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
PI JP 07233220 A2 950905 Heisei
AI JP 94-25552 940223
DT Patent
LA Japanese
OS MARPAT 124:31779
AB Title particles with narrow mol. wt. distribution comprise (A)
random copolymers of ethylene (I) and .gtoreq.1 C3-20 .alpha.-olefin
or random copolymers of .gtoreq.2 C3-12 .alpha.-olefins and have av.
particle size 150-3000 .mu.m, bulk d. 0.2-0.5 g/mL,
o-dichlorobenzene-sol. content (temp. rising elution fractionation)
30-95% (at 0.degree.), 0-50% (0-50.degree.), and 5-30%
(50-120.degree.), copolymer ratio 0.5-1.5 by ¹³C-NMR for fractions
extd. with boiling n-hexane, Mw/Mn = 1.5-3.5 in gel-permeation
chromatog. for fractions extd. with boiling n-hexane. Thus, a 4:1
mol I and propylene mixt. was polymd. in the presence of NaCl and a
solid catalyst [prepd. from Accurel (polypropylene), modified Me
aluminoxane, dimethylsilylenebis(4,5,6,7-tetrahydroindenyl)zirconium
dichloride] at 50.degree. and 5 kg/cm2 for 1 h to give granular
elastomer (av. particle size .apprx.1500 .mu.m, no.-av. mol. wt.
23,600, Mw/Mn = 2.90).
IT 115701-70-7P 143346-96-7P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(in manuf. of polyolefin elastomer granules without granulation
process)
RN 115701-70-7 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-
4,5,6,7-tetrahydro-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 143346-96-7 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-
4,5,6,7-tetrahydro-2-methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX
NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 18666-26-7
RL: RCT (Reactant)
(in prepn. of catalysts in manuf. of polyolefin elastomer
granules without granulation process)
RN 18666-26-7 CAPLUS
CN Silane, di-1H-inden-1-yl dimethyl- (9CI) (CA INDEX NAME)



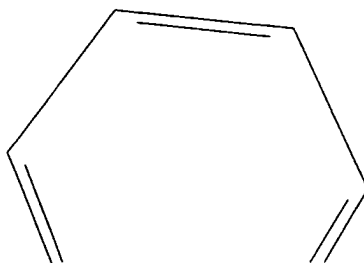
IT 119821-97-5P 149342-08-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(in prepn. of catalysts in manuf. of polyolefin elastomer
granules without granulation process)

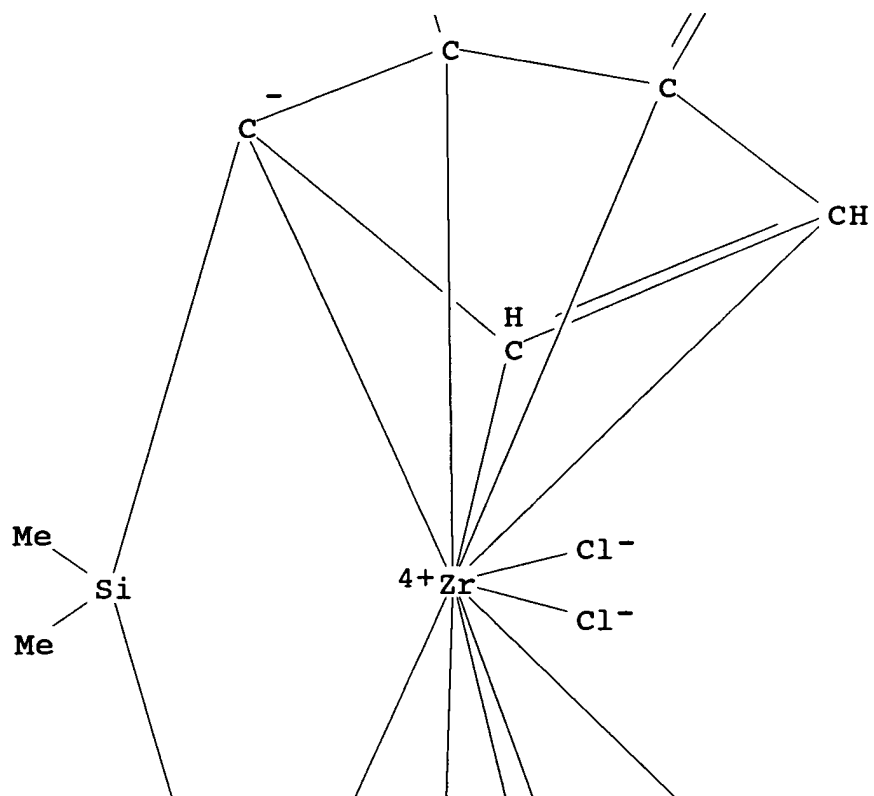
RN 119821-97-5 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-
inden-1-ylidene]]- (9CI) (CA INDEX NAME)

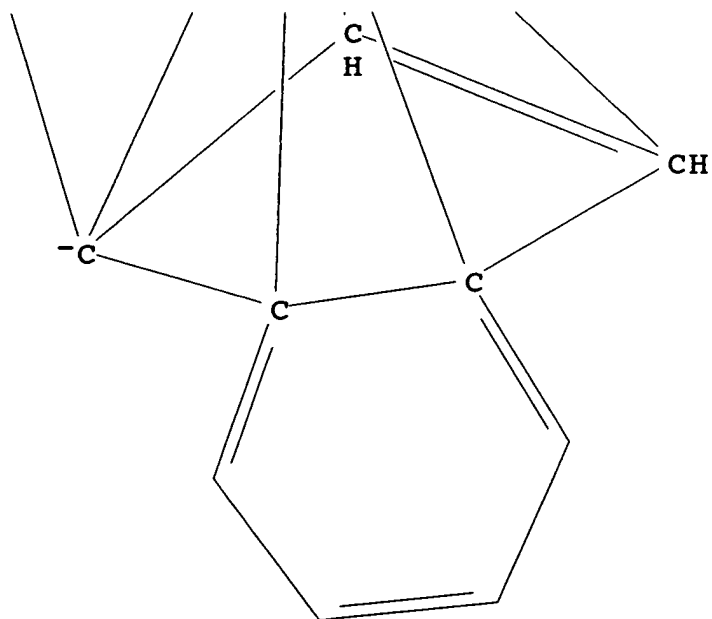
PAGE 1-A



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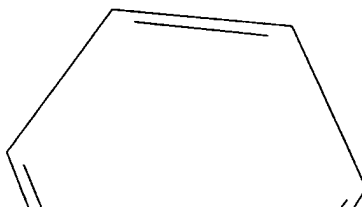
PAGE 3-A



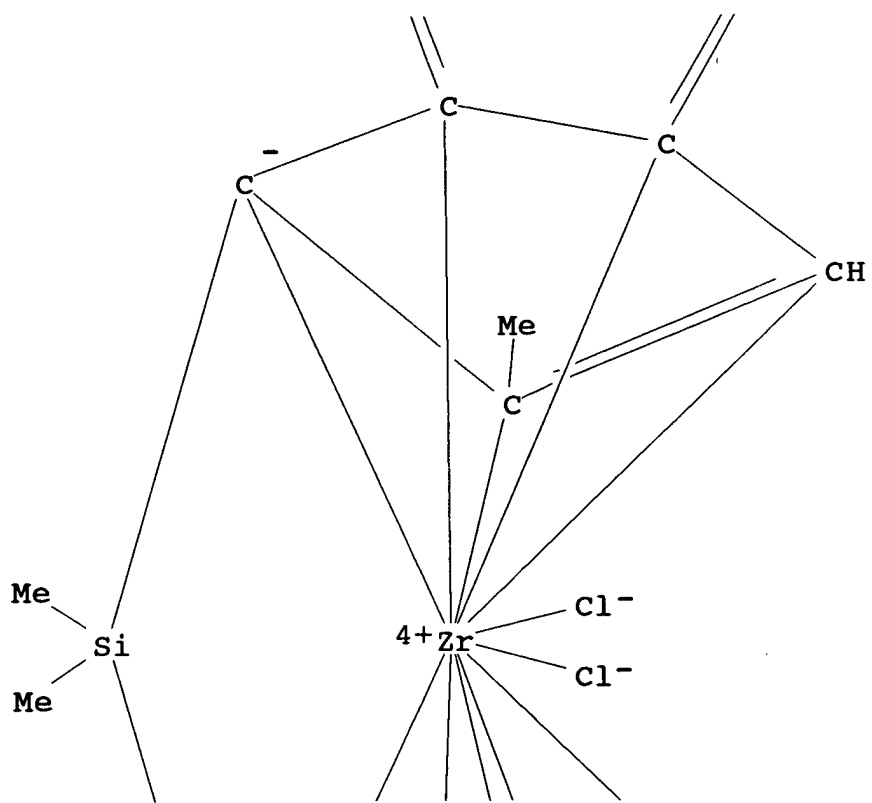
RN 149342-08-5 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

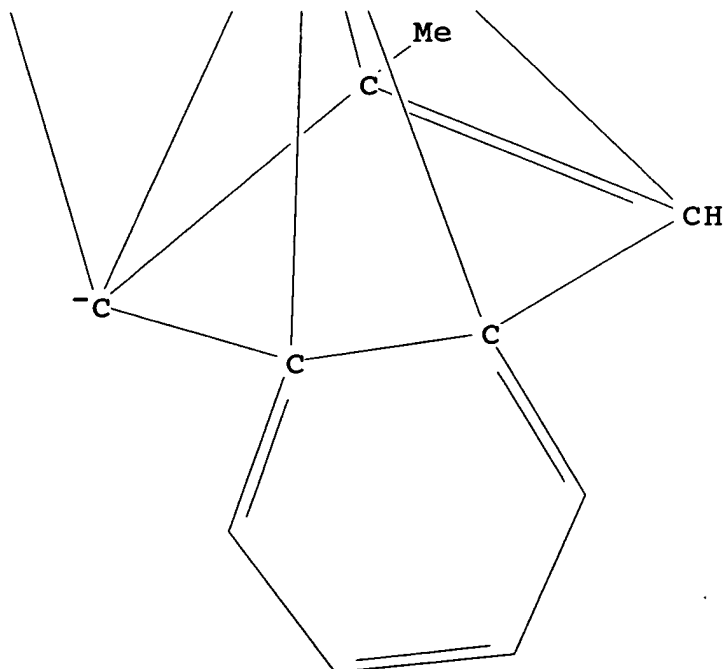
PAGE 1-A



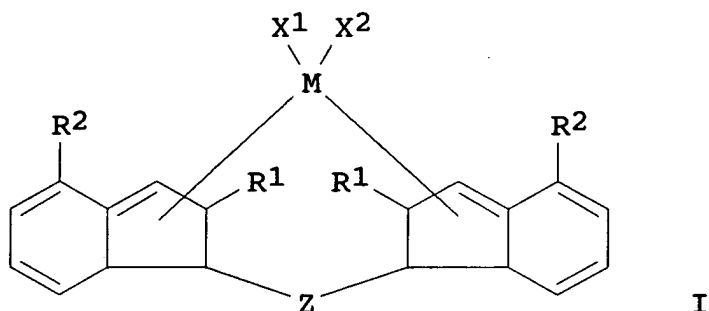
PAGE 2-A



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L49 ANSWER 16 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:928192 CAPLUS
DN 123:314849
TI Indenyl transition metal complexes for olefin polymerization catalysts
IN Imuta, Junichi; Fukuoka, Daisuke; Yoshida, Masayasu; Saito, Junji; Fujita, Terunori; Tashiro, Takashi; Kawaai, Koji; Ueda, Takashi; Kiso, Yoshihisa
PA Mitsui Petrochemical Industries, Ltd., Japan
SO Can. Pat. Appl., 66 pp.
CODEN: CPXXEB
PI CA 2135561 AA 950513
AI CA 94-2135561 941110
PRAI JP 93-377819 931112
DT Patent
LA English
OS MARPAT 123:314849
GI



AB Title complexes I [M = Group IVA, VA, or VIA metal; X1, X2 = H, halo, C1-20 (halogenated) hydrocarbyl, or O- or S-contg. group; R1 = C1-20 hydrocarbyl; R2 = halogenated C1-20-hydrocarbyl-substituted C6-16 aryl; Z = (halogenated) C1-20 hydrocarbylene, divalent Si-, Ge-, or Sn-contg. group; O, CO, S, SO, SO2, NR3, PR3, P(O)R3, BR3, or AlR3, R3 = H, halo, or (halogenated) C1-20 hydrocarbyl] are useful as highly active catalysts in the polymn. of olefins giving polyolefins having a high m.p. and a high mol. wt. I are used with organoaluminum cocatalysts or compds. that form ion pairs with I, and the catalysts may be supported on inorg. compds. A typical catalyst was manufd. by lithiation of 2-methyl-4-(p-trifluoromethylphenyl)indene, reaction of the lithiated product with Me2SiCl2, lithiation of the resulting product, and complexation of the 2nd lithiated product with ZrCl2.

IT 167021-58-1P

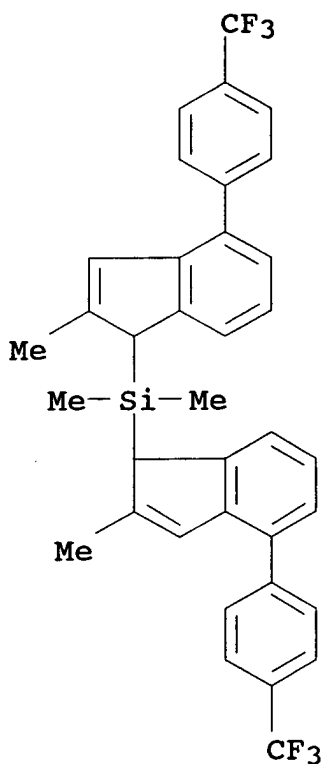
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)

(catalyst precursor; indenyl transition metal complexes for olefin polymn. catalysts)

RN 167021-58-1 CAPLUS

Searched by Barb O'Bryen, STIC 308-4291

CN Silane, dimethylbis[2-methyl-4-[4-(trifluoromethyl)phenyl]-1H-inden-1-yl]- (9CI) (CA INDEX NAME)



IT 167021-59-2P

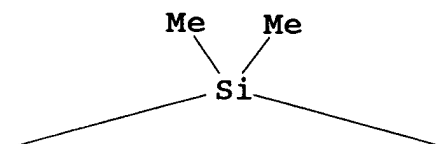
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(indenyl transition metal complexes for olefin polymn. catalysts)

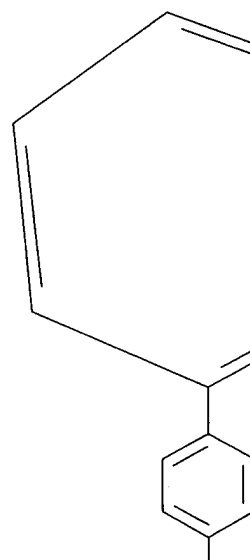
RN 167021-59-2 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-2-methyl-4-[4-(trifluoromethyl)phenyl]-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

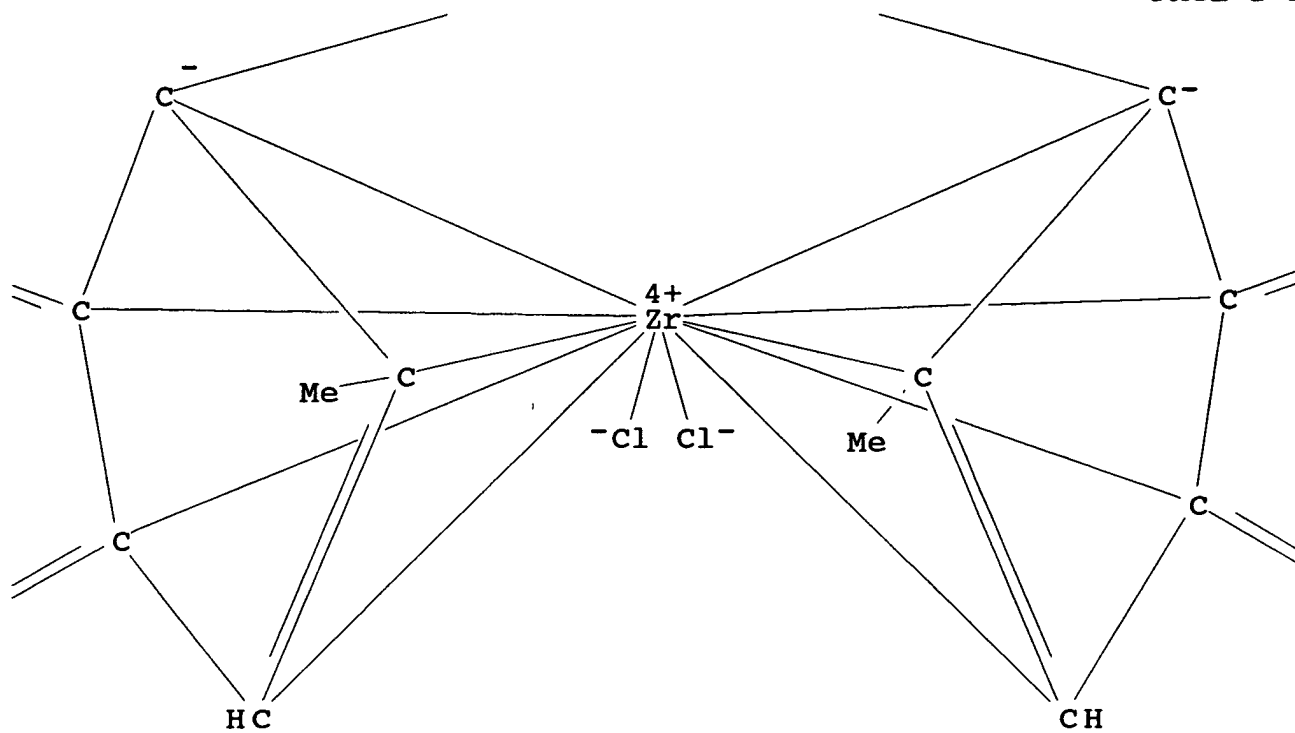
PAGE 1-B



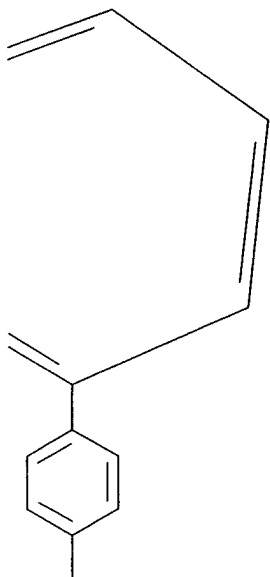
PAGE 2-A



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PAGE 2-C



PAGE 3-A

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CF₃

PAGE 3-C

CF₃

L49 ANSWER 17 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:884101 CAPLUS
DN 123:287160
TI Metallocenes, their use as olefin polymerization catalysts, and the
polymers produced
IN Winter, Andreas; Kueber, Frank; Aulbach, Michael; Bachmann, Bernd;
Klein, Robert; Kuehleln, Klaus; Spaleck, Walter; Kohlpaintner,
Christian
PA Hoechst A.-G., Germany
SO Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW

Searched by Barb O'Bryen, STIC 308-4291

PI EP 659757 A1 950628
DS R: AT, BE, DE, ES, FR, GB, IT, NL
AI EP 94-120070 941219
PRAI DE 93-4344689 931227
DT Patent
LA German
OS MARPAT 123:287160
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The prepn. of metallocenes I [M2 = Group IVB, VB, VIB metal; R1 = H, C1-10 alkyl, alkoxy, C6-10 aryl, aryloxy, C2-10 alkenyl, C7-40 arylalkyl, C7-40 alkylaryl, C8-40 arylalkenyl, halo; R2 = H, C1-10 alkyl, C6-10 aryl, C2-10 alkenyl, C7-40 arylalkyl, C7-40 alkylaryl, C8-40 arylalkenyl, amino, alkoxy, thio, siloxy, silyl, phosphinyl, etc.; R3, R4 = H, halo, C1-20 (fluoro)alkyl, C6-30 (fluoro)aryl, C1-20 alkoxy, C2-20 alkenyl, C7-40 arylalkyl, C8-40 arylalkenyl, C7-40 alkylaryl, amino, alkoxy, thio, siloxy, silyl, phosphinyl; R5 = halo, C1-10 alkyl, C6-10 aryl, C2-20 alkenyl, C7-40 arylalkyl, C7-40 alkylaryl, C8-40 arylalkenyl, amino, alkoxy, thio, siloxy, silyl, phosphinyl, etc.; R6 = H, halo, C1-10 alkyl, C6-10 aryl, C2-10 alkenyl, C7-40 arylalkyl, C7-40 alkyloxy, C8-40 arylalkenyl, amino, alkoxy, thio, siloxy, silyl, phosphinyl, etc.; R7 = hetero atom substituted alkenyl, Group IIIA or IVA metal substituted organodiyl, etc.; R8, R9 = H, halo, C1-20 (fluoro)alkyl, C6-30 (fluoro)aryl, C1-20 alkoxy, C2-20 alkenyl, C7-40 arylalkyl, C8-40 arylalkenyl, C7-40 alkylaryl; m, n, m + n = 0-2], useful as olefin polymn. catalysts, is described. Thus, lithiation of 2-methyl-7-phenylindene with BuLi in hexane followed by silylation with Me2SiCl2 and treatment with methylindenyllithium gave a ligand system which upon further lithiation with BuLi and metalation with ZrCl4 gave dimethylsilanediyl(2-methyl-1-indenyl)(2-methyl-4-phenyl-1-indenyl)zirconium dichloride (II). II was used as catalyst with methylaluminumoxane soln. for polymn. of propylene.

IT 169466-84-6P 169466-85-7P 169466-86-8P

169466-87-9P 169466-88-0P 169466-89-1P

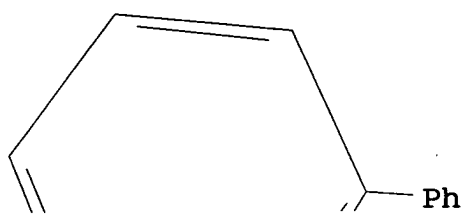
169466-90-4P 169466-91-5P 169533-65-7P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(prepn. of metallocenes as olefin polymn. catalysts)

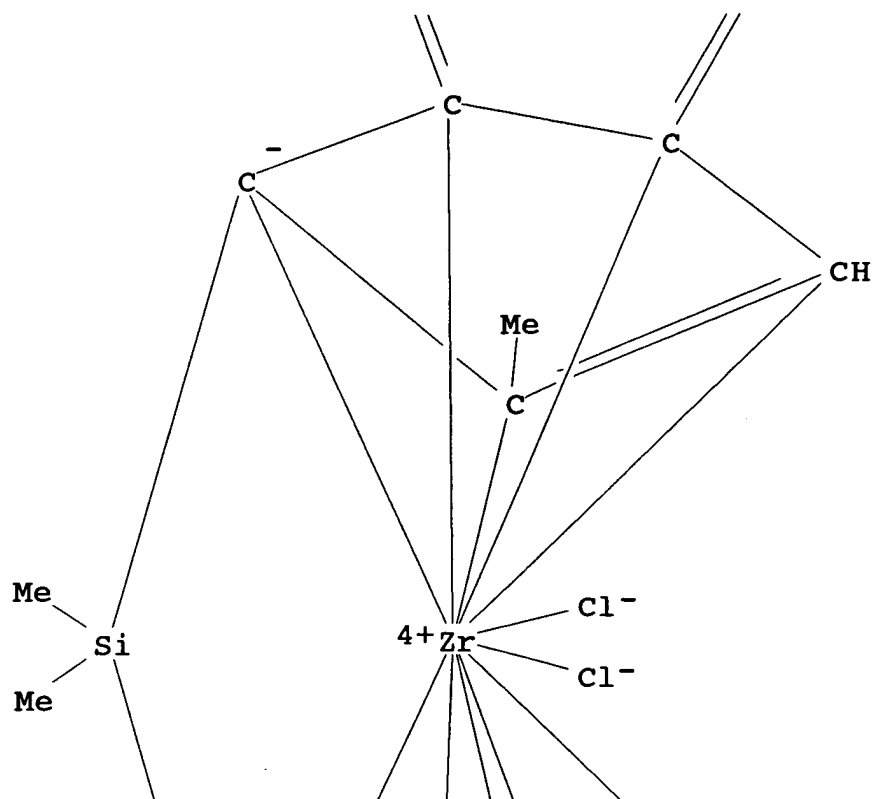
RN 169466-84-6 CAPLUS

CN Zirconium, dichloro[.eta.10-(2-methyl-1H-inden-1-ylidene)(dimethylsilylene)(2-methyl-4-phenyl-1H-inden-1-ylidene)]-, stereoisomer (9CI) (CA INDEX NAME)

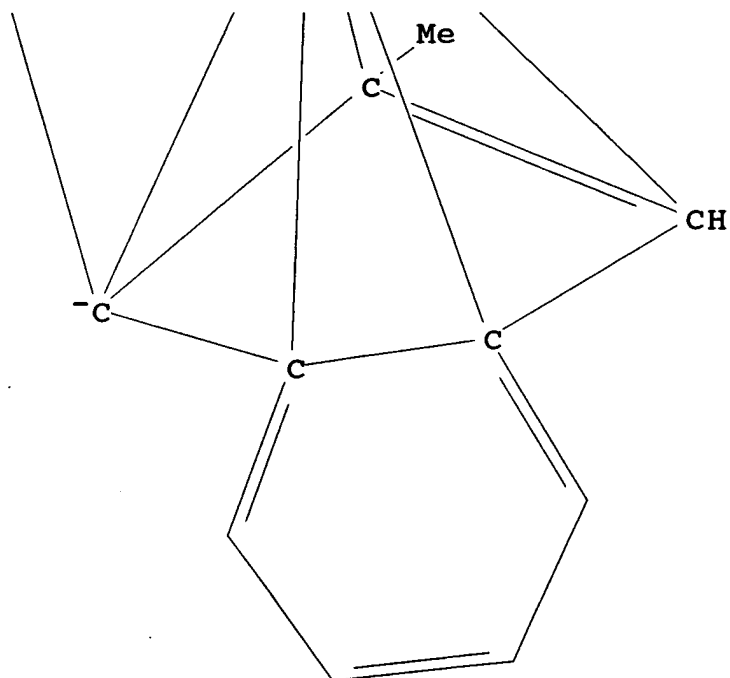
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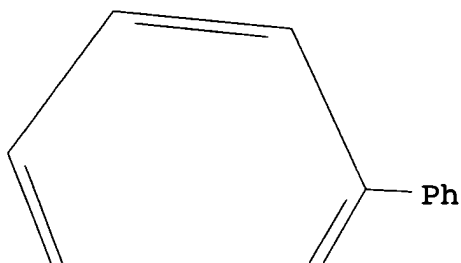


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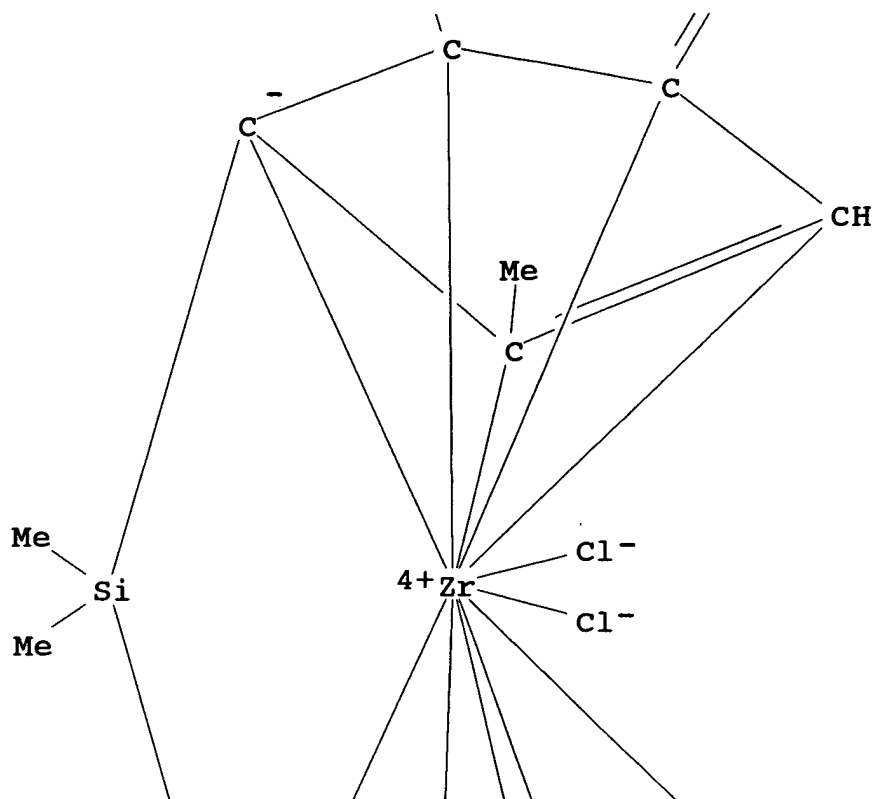


RN 169466-85-7 CAPLUS
CN Zirconium, dichloro[.eta.10-1H-inden-1-ylidene(dimethylsilylene)(2-methyl-4-phenyl-1H-inden-1-ylidene)]-, stereoisomer (9CI) (CA INDEX NAME)

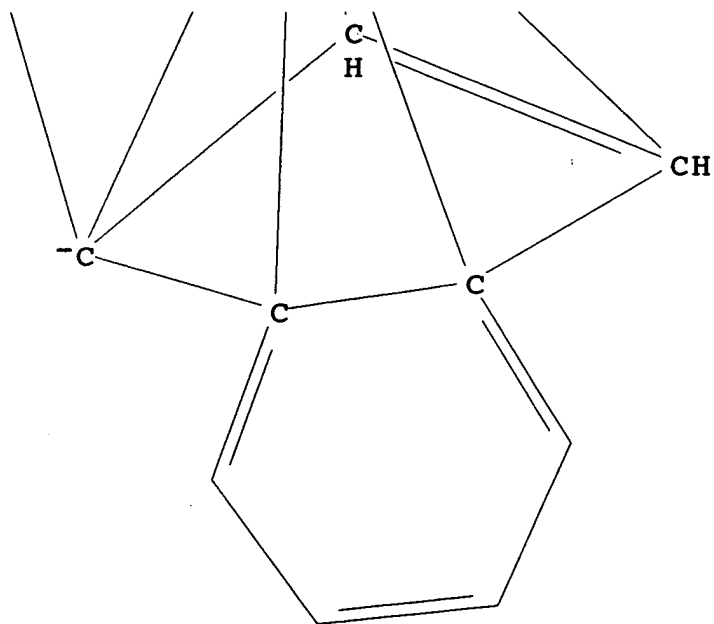
PAGE 1-A



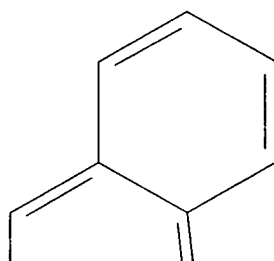
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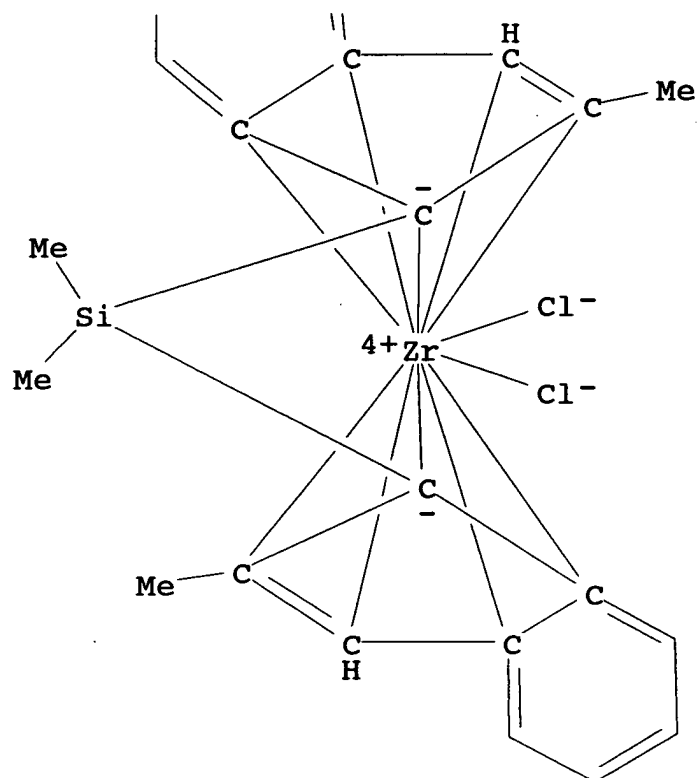
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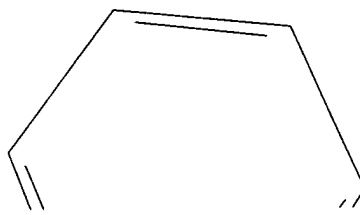


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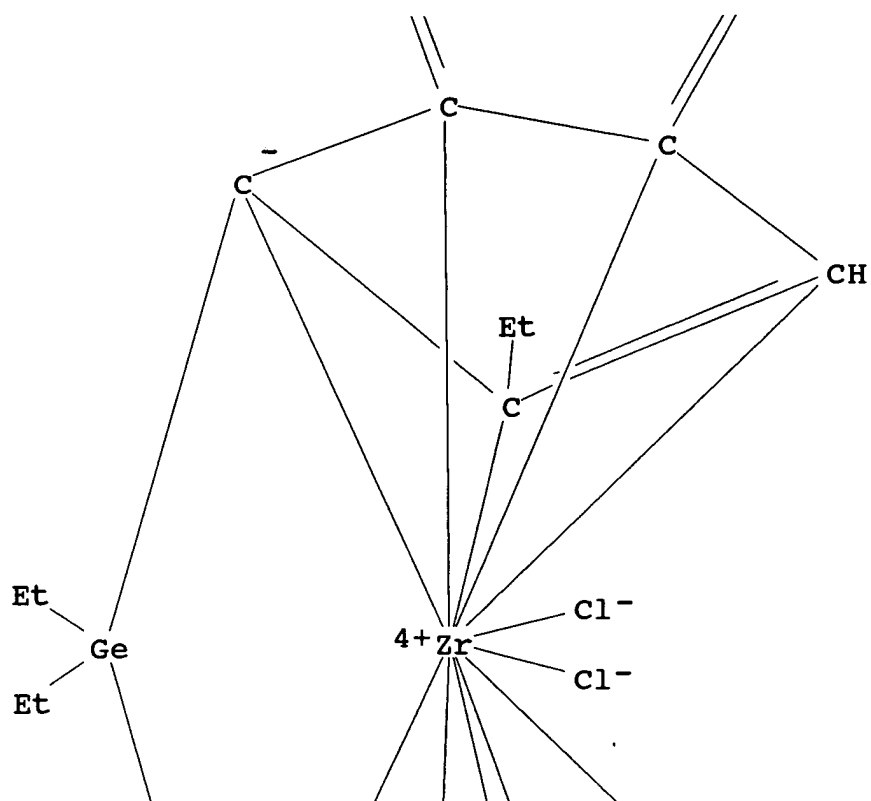


RN 169466-87-9 CAPLUS
 CN Zirconium, dichloro[.eta.10-(2-ethyl-1H-inden-1-ylidene)(diethylgermylene)(2-methyl-4-phenyl-1H-inden-1-ylidene)]-, stereoisomer (9CI) (CA INDEX NAME)

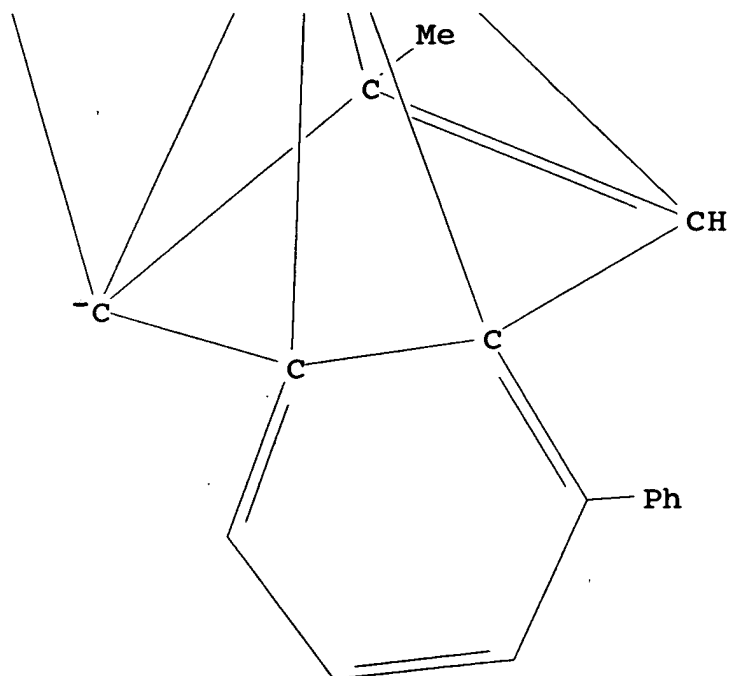
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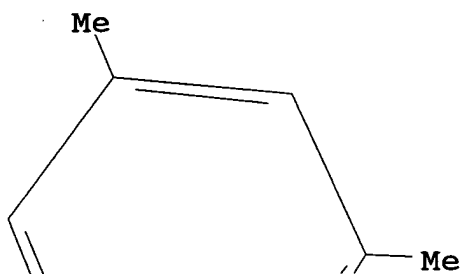


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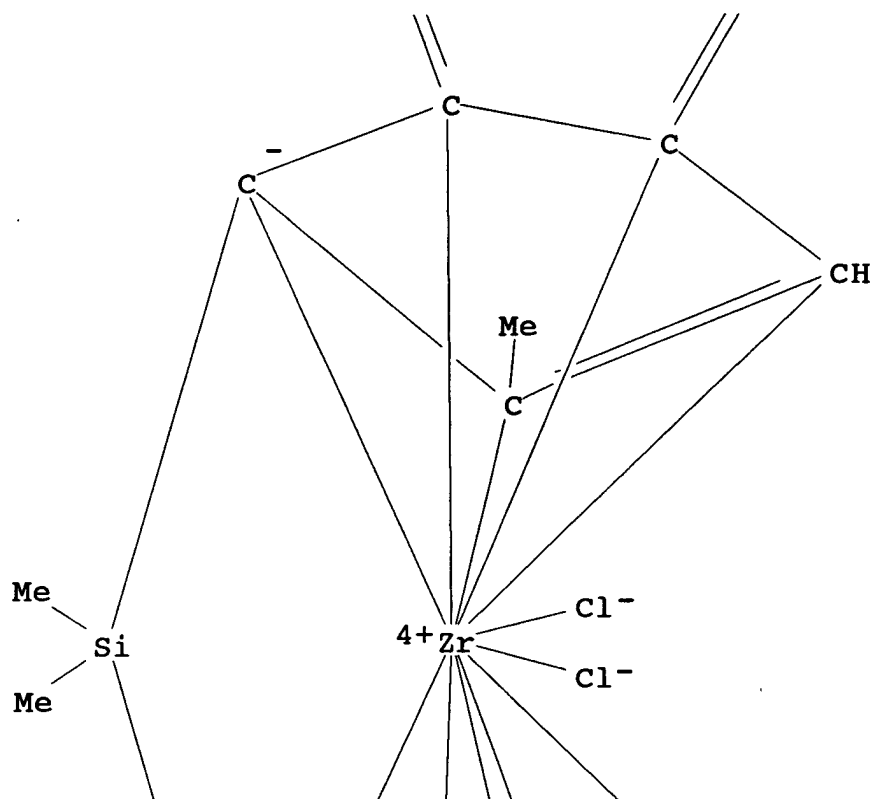


RN 169466-88-0 CAPLUS
CN Zirconium, dichloro[.eta.10-(2-methyl-4-phenyl-1H-inden-1-ylidene)(dimethylsilylene)(2,4,6-trimethyl-1H-inden-1-ylidene)]-, stereoisomer (9CI) (CA INDEX NAME)

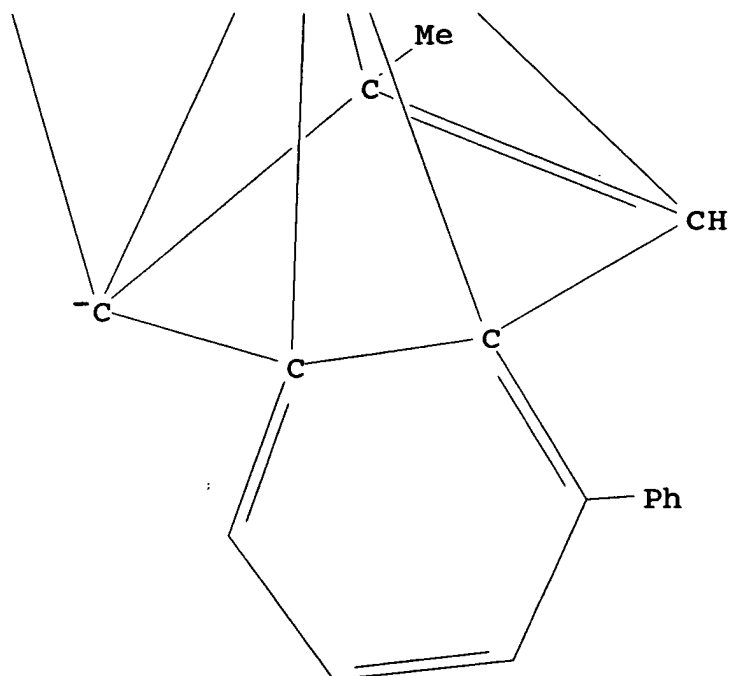
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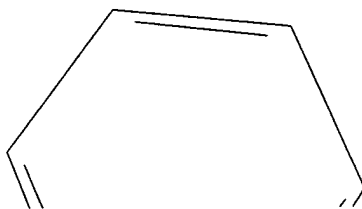


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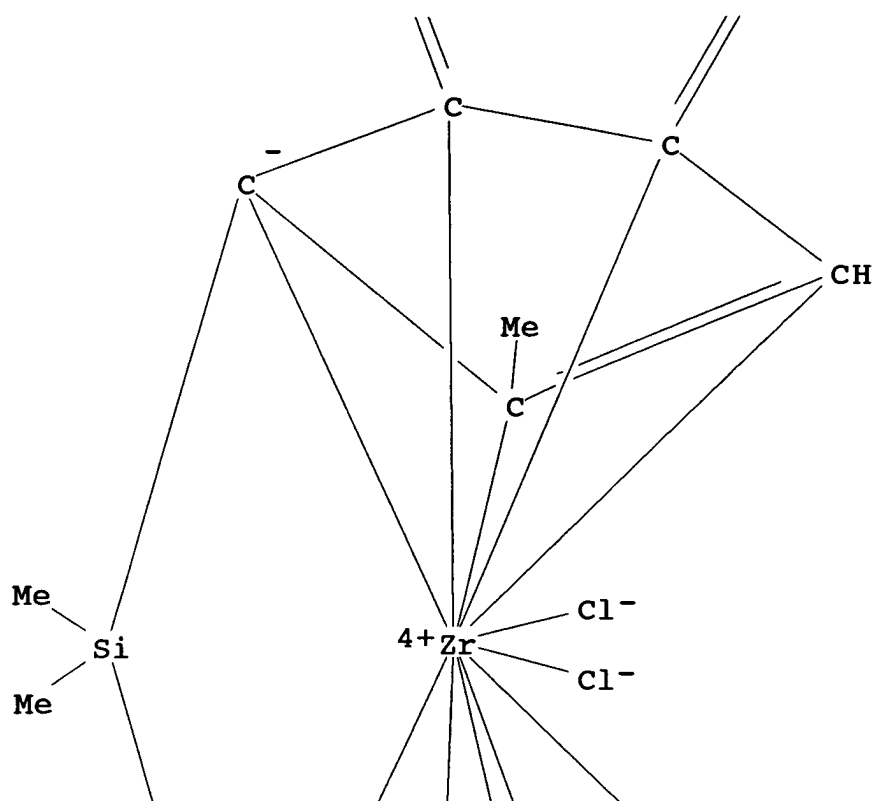


RN 169466-89-1 CAPLUS
CN Zirconium, dichloro[.eta.10-[2-methyl-4,6-bis(1-methylethyl)-1H-inden-1-ylidene](dimethylsilylene)(2-methyl-1H-inden-1-ylidene)]-, stereoisomer (9CI) (CA INDEX NAME)

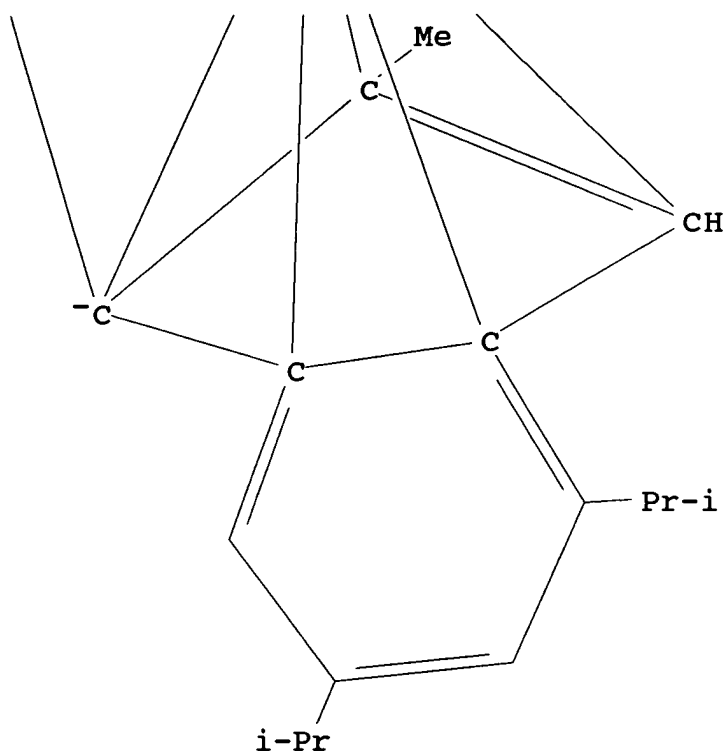
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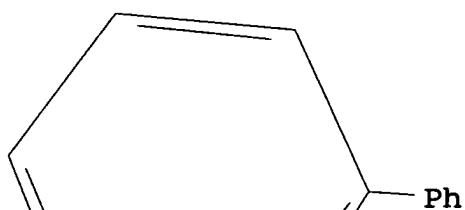


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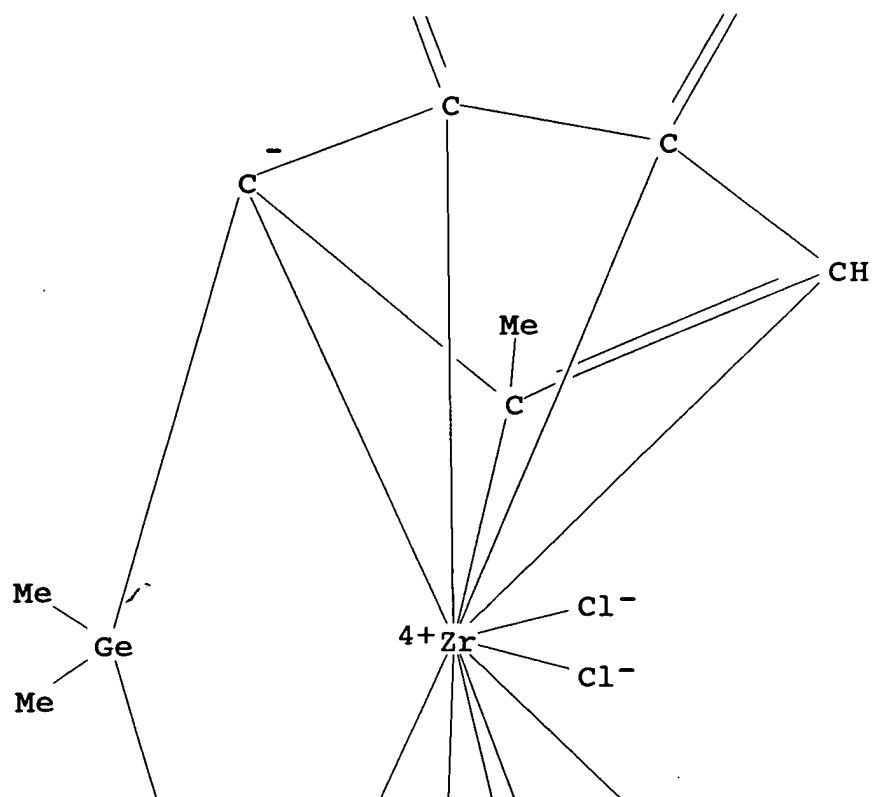


RN 169466-90-4 CAPLUS
CN Zirconium, dichloro[.eta.10-(2-methyl-1H-inden-1-ylidene)(dimethylgermylene)(2-methyl-4-phenyl-1H-inden-1-ylidene)]-, stereoisomer (9CI) (CA INDEX NAME)

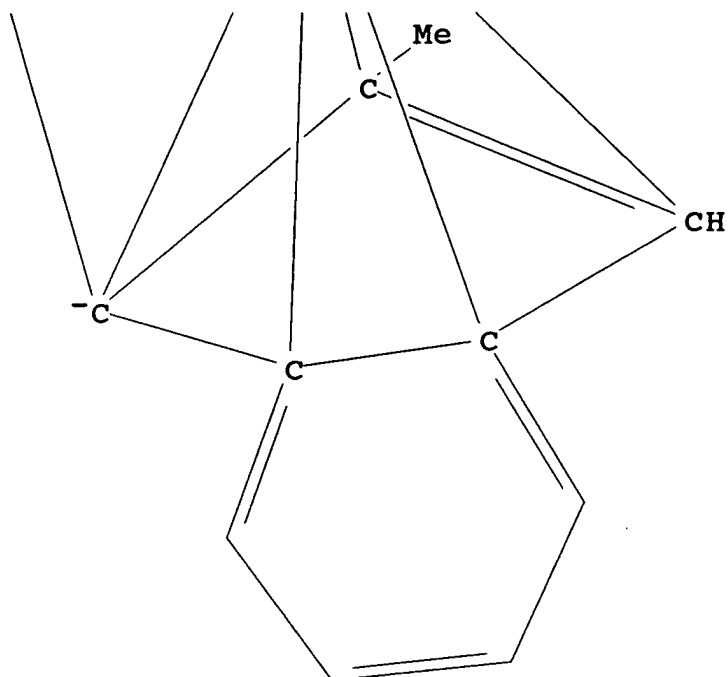
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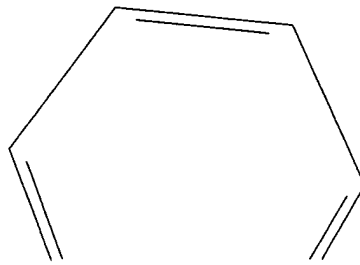


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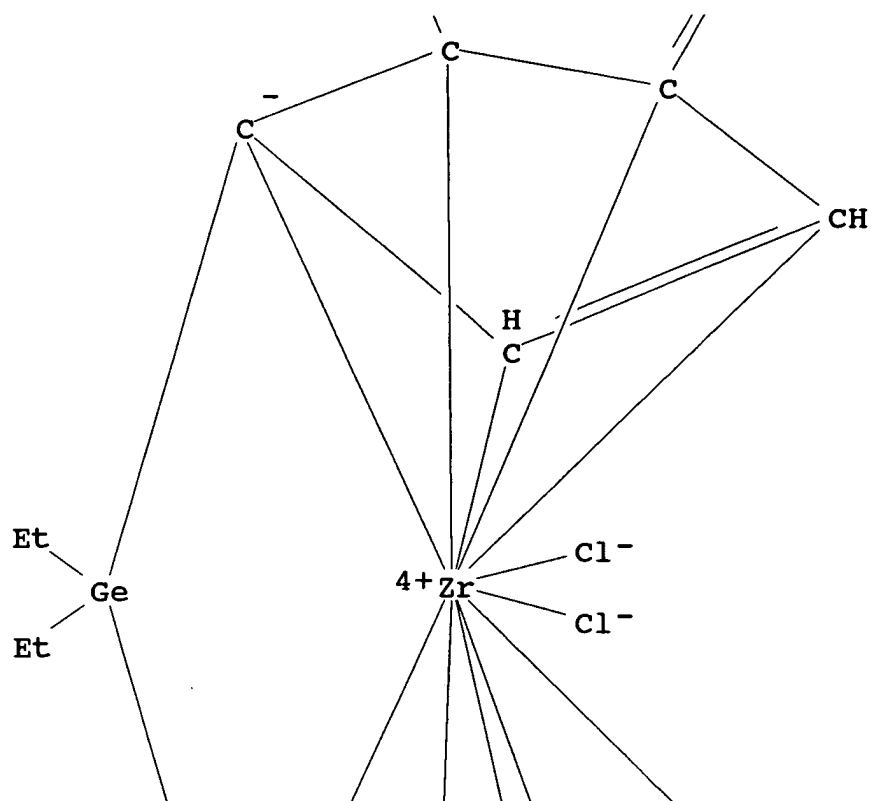


RN 169466-91-5 CAPLUS
CN Zirconium, dichloro[.eta.10-1H-inden-1-ylidene(diethylgermylene)[2-methyl-4-(1-naphthalenyl)-1H-inden-1-ylidene]]-, stereoisomer (9CI)
(CA INDEX NAME)

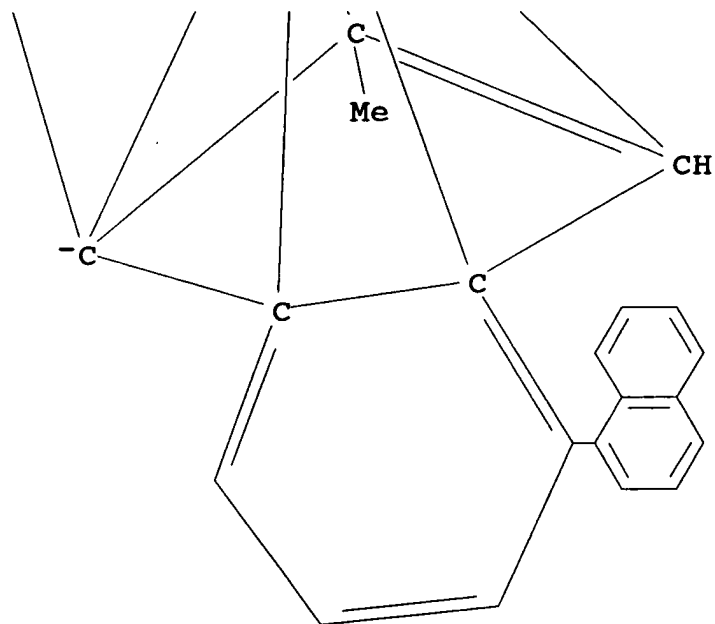
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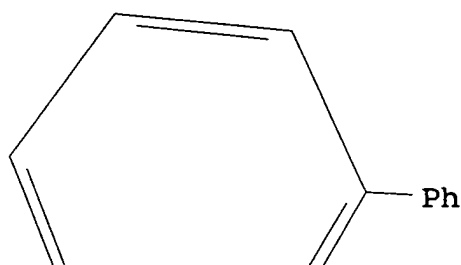


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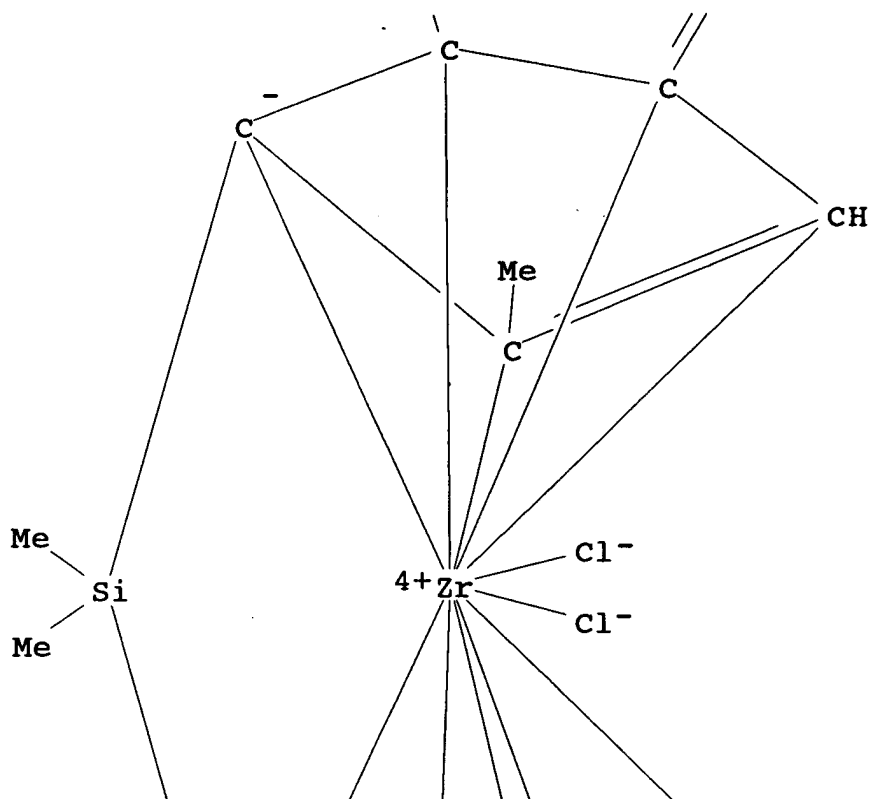


RN 169533-65-7 CAPLUS
CN Zirconium, dichloro[.eta.10-1H-inden-1-ylidene(dimethylsilylene)(2-methyl-4-phenyl-1H-inden-1-ylidene)]-, stereoisomer (9CI) (CA INDEX NAME)

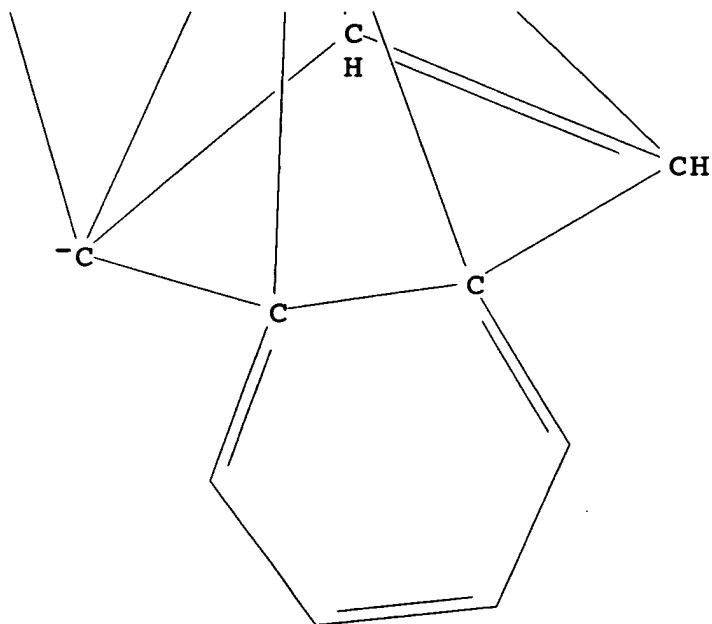
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IT 169480-35-7P 169480-37-9P 169480-39-1P
169480-41-5P 169480-43-7P 169480-45-9P
169480-47-1P 169526-71-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation)

(prepn. of metallocenes as olefin polymn. catalysts)

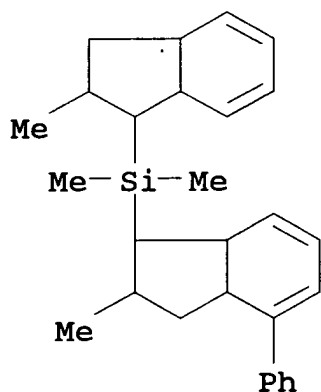
RN 169480-35-7 CAPLUS

CN Silane, dimethyl(2-methylinden-1-yl)[2-methyl-4(or
7)-phenylinden-1-yl]- (9CI) (CA INDEX NAME)

CM 1

CRN 169480-34-6

CMF C28 H36 Si



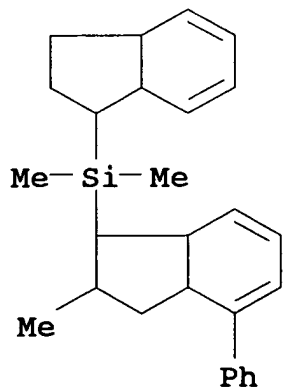
RN 169480-37-9 CAPLUS

CN Silane, dimethylinden-1-yl[2-methyl-4(or 7)-phenylinden-1-yl]- (9CI)
(CA INDEX NAME)

CM 1

CRN 169480-36-8

CMF C27 H34 Si



RN 169480-39-1 CAPLUS

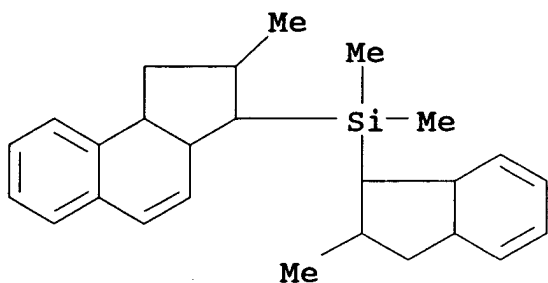
Searched by Barb O'Bryen, STIC 308-4291

CN Silane, dimethyl(2-methylbenz[e]inden-3-yl)(2-methylinden-1-yl)-
(9CI) (CA INDEX NAME)

CM 1

CRN 169480-38-0

CMF C26 H34 Si



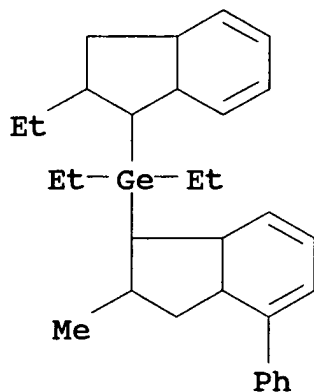
RN 169480-41-5 CAPLUS

CN Germane, diethyl(2-ethylinden-1-yl)[2-methyl-4(or
7)-phenylinden-1-yl]- (9CI) (CA INDEX NAME)

CM 1

CRN 169480-40-4

CMF C31 H42 Ge



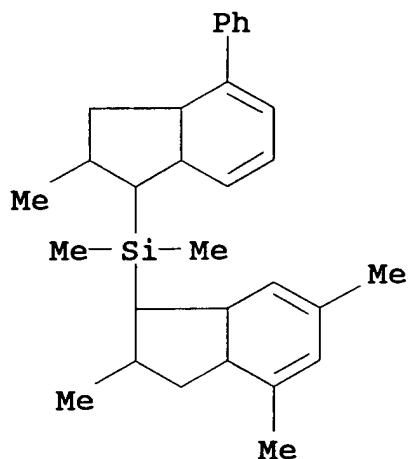
RN 169480-43-7 CAPLUS

CN Silane, dimethyl[2-methyl-4(or 7)-phenylinden-1-yl](2,4,6-
trimethylinden-1-yl)- (9CI) (CA INDEX NAME)

CM 1

CRN 169480-42-6

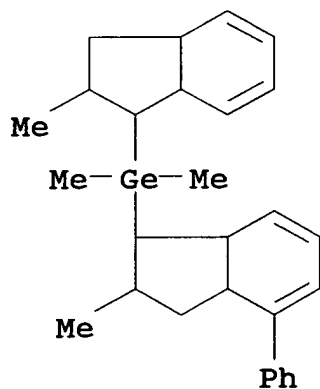
CMF C30 H40 Si



RN 169480-45-9 CAPLUS
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7)-phenylinden-1-yl]- (9CI) (CA INDEX NAME)

CM 1

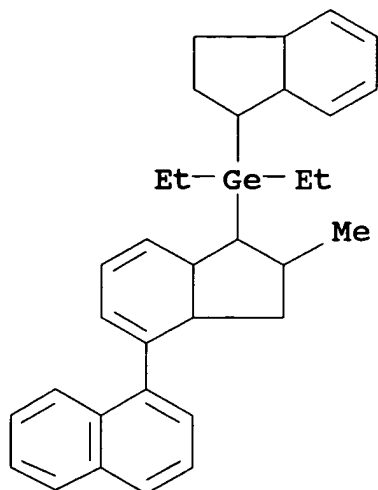
CRN 169480-44-8
CMF C28 H36 Ge



RN 169480-47-1 CAPLUS
CN Germane, diethylinden-1-yl[2-methyl-4-(1-naphthalenyl)inden-1-yl]-
(9CI) (CA INDEX NAME)

CM 1

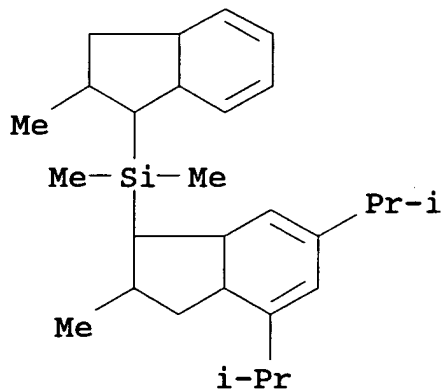
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CMF C33 H40 Ge



RN 169526-71-0 CAPLUS
CN Silane, dimethyl[2-methyl-4,6-bis(1-methylethyl)inden-1-yl](2-methylinden-1-yl)- (9CI) (CA INDEX NAME)

CM 1

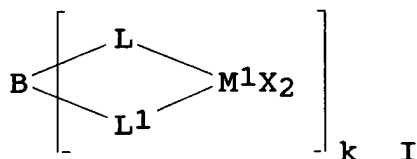
CRN 169526-70-9
CMF C28 H44 Si



L49 ANSWER 18 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:772666 CAPLUS
DN 123:169902
TI Preparation of metallocene derivatives as olefin polymerization catalysts
IN Kueber, Frank; Aulbach, Michael; Bachmann, Bernd; Spaleck, Walter; Winter, Andreas
PA Hoechst A.-G., Germany
SO Eur. Pat. Appl., 36 pp.
CODEN: EPXXDW
PI EP 654476 A1 950524
DS R: AT, BE, DE, ES, FR, GB, IT, NL, SE

Searched by Barb O'Bryen, STIC 308-4291

AI EP 94-118188 941118
 PRAI DE 93-4340018 931124
 DE 93-4344708 931227
 DE 93-4344687 931227
 DT Patent
 LA German
 OS MARPAT 123:169902
 GI



AB The prepn. of multinuclear metallocene derivs. I [M1 = Group IVb, Vb, VIb transition metal; X = same or different H, C1-10 alkyl, alkoxy, C6-10 aryl, C6-10 aryloxy, C2-10 alkenyl, C7-40 arylalkyl, C7-40 alkylaryl, C8-40 arylalkenyl, OH, halo, pseudohalo; L, L1 = same or different .pi.-ligand, electron donor; k .gtoreq. 2; B = substituted organoelement or hydrocarbon, etc.], useful as catalyst for olefin polymn., is described. Thus, lithiation of 2-methyl-7-phenylindene with BuLi in PhMe followed by treatment with 1,6-bis(methyldichlorosilyl)hexane gave a ligand system which on further lithiation with BuLi followed by metalation with ZrCl4 gave 47% title catalyst, 1,6-{bis[methylsilylbis(2-methyl-7-phenylindenyl)zirconium dichloride]}hexane. The polymn. of olefins, e.g. propylene, using the prepd. catalysts were also described.

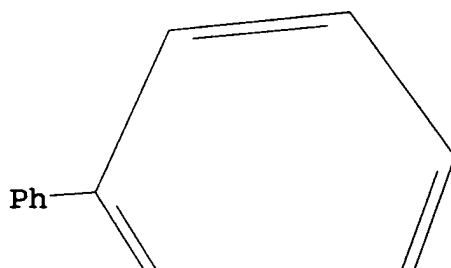
IT 167270-22-6P 167270-23-7P 167270-24-8P
 167270-25-9P 167270-28-2P 167270-29-3P
 167270-30-6P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)
 (prepn. of metallocene derivs. as olefin polymn. catalysts)

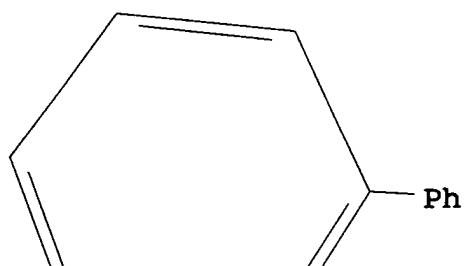
RN 167270-22-6 CAPLUS

CN Zirconium, tetrachloro[.mu.-[.eta.10:.eta.10-1,1',1'',1'''-[1,6-hexanediylbis(methylsilylidyne)]tetrakis(2-methyl-4-phenyl-1H-inden-1-ylidene)]]di- (9CI) (CA INDEX NAME)

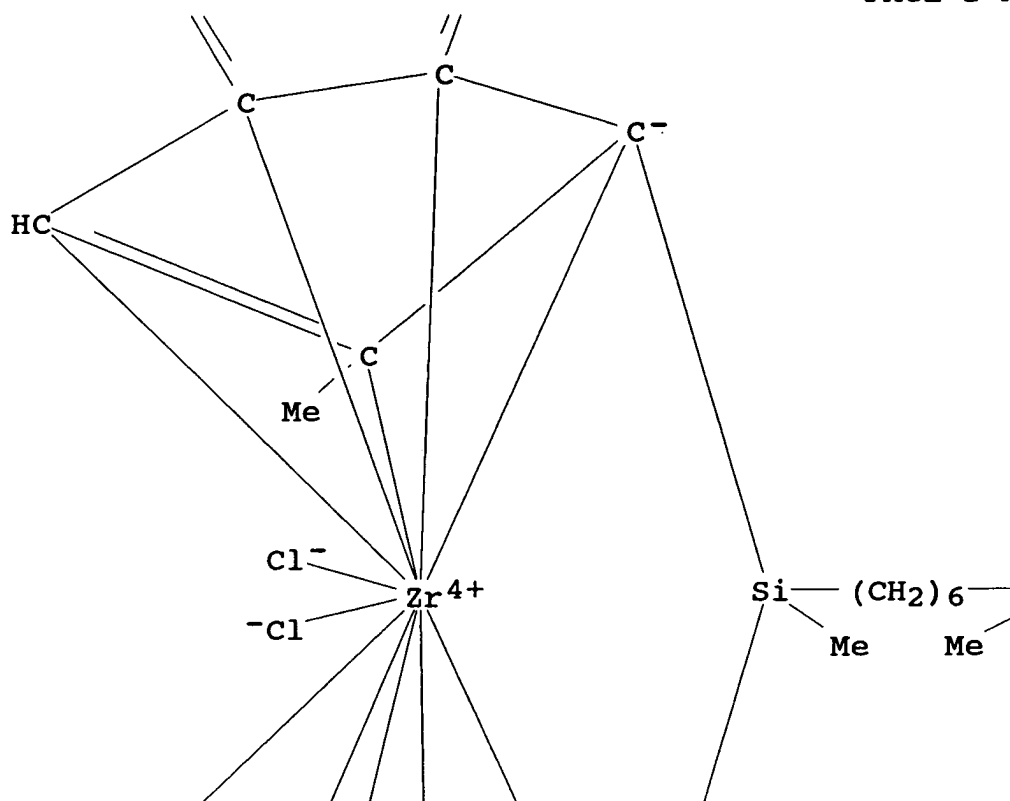
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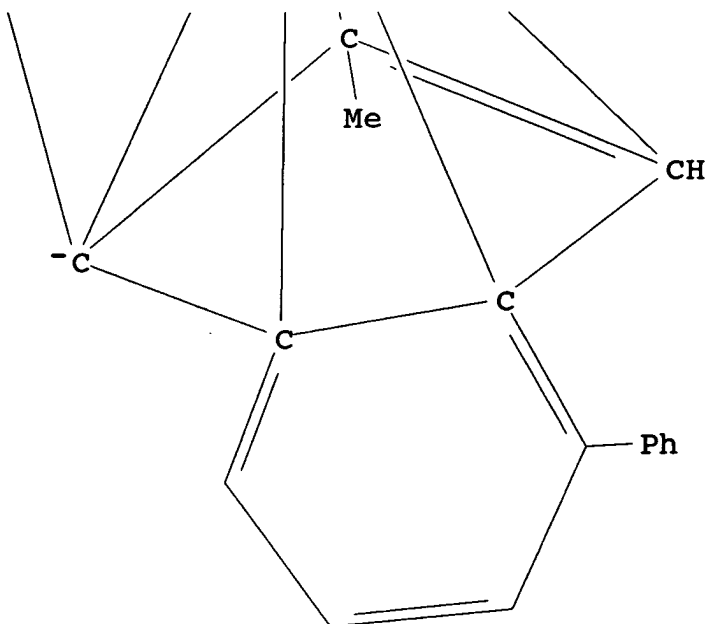


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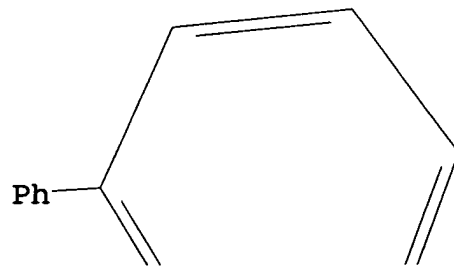
Chemical structure diagram showing a central Zr atom (4+) coordinated by two Cl⁻ ions, a CH group, a Me group, and a C atom. The C atom is part of a larger structure that includes a Si atom and several other C atoms, some of which are bonded to H atoms.

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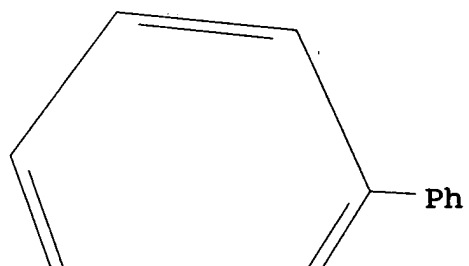


RN 167270-23-7 CAPLUS
CN Zirconium, tetrachloro[.mu.-[.eta.10:.eta.10-1,1',1'',1'''-[1,2-ethanediylbis(methylsilylidyne)]tetrakis(2-methyl-4-phenyl-1H-inden-1-ylidene)]]di- (9CI) (CA INDEX NAME)

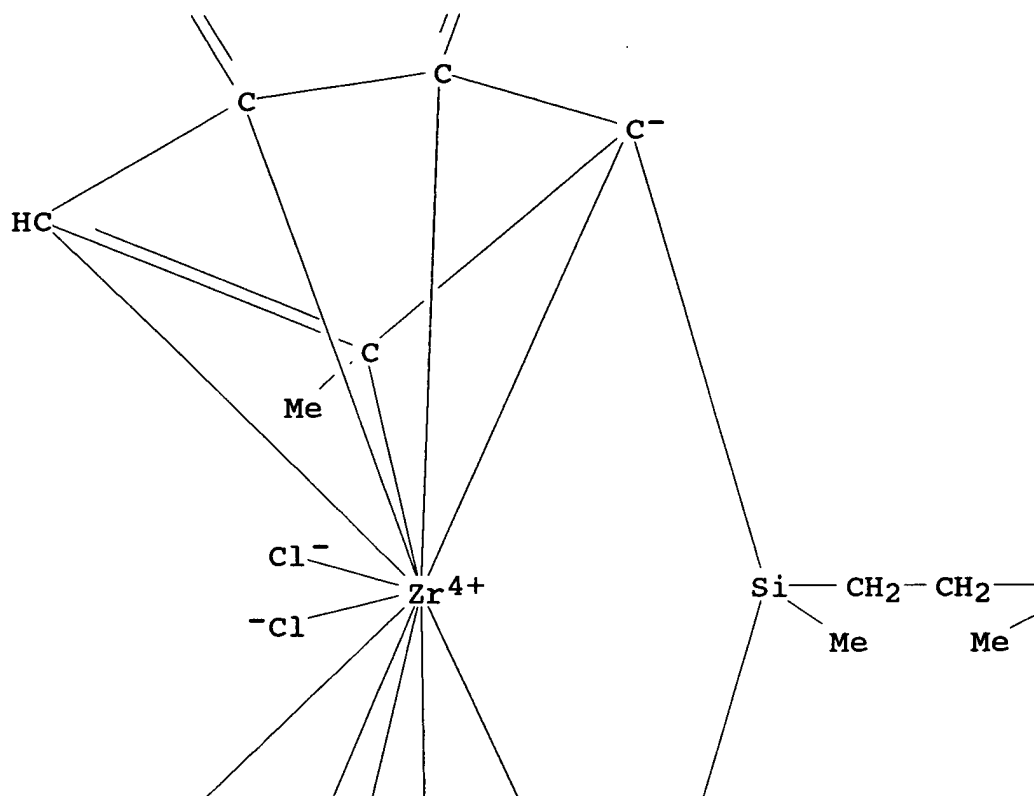
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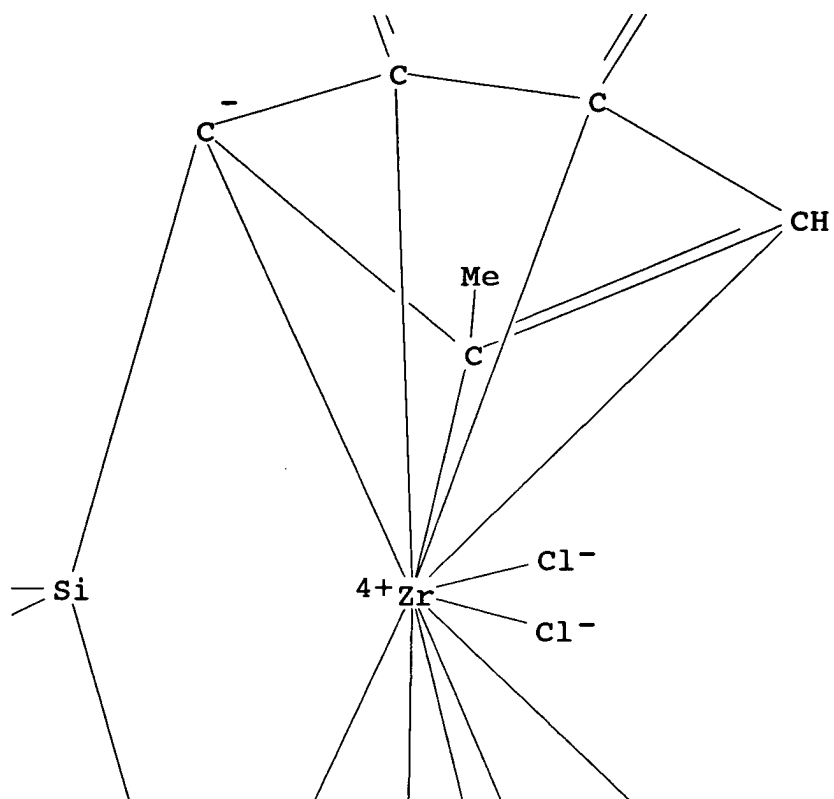
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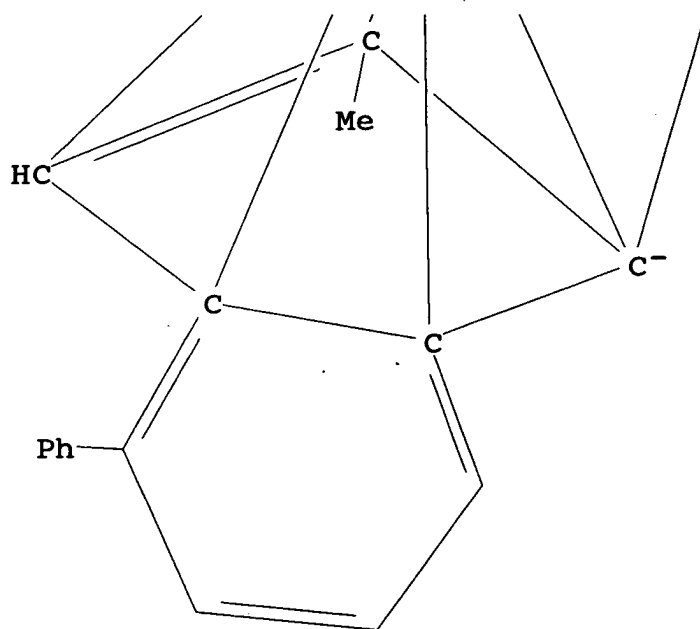
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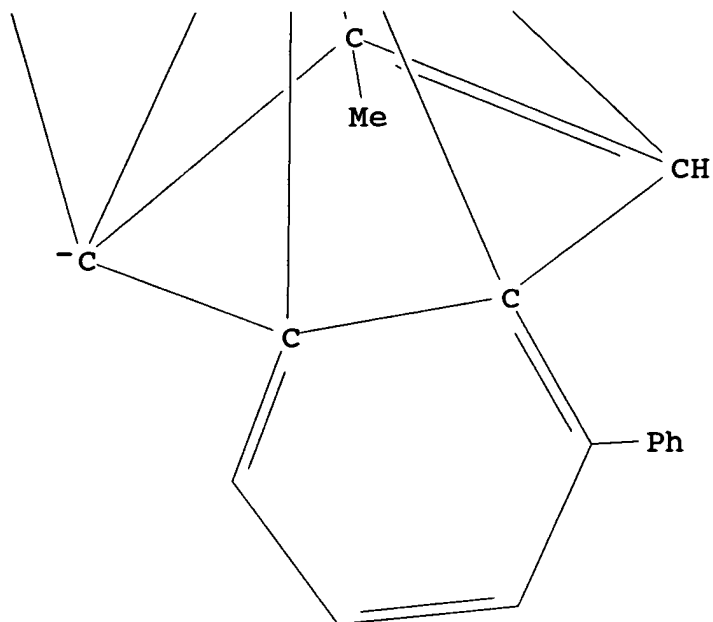
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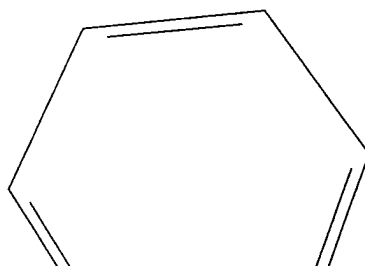


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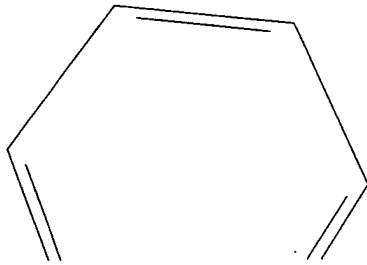


RN 167270-24-8 CAPLUS.
CN Zirconium, tetrachloro[.mu.-[[.eta.10:.eta.10-1,1'-[1,6-
hexanediylbis[methyl(2-methyl-1H-inden-1-yl)silylene]]bis[2-methyl-4-
phenyl-1H-indenato]](4-))]di- (9CI) (CA INDEX NAME)

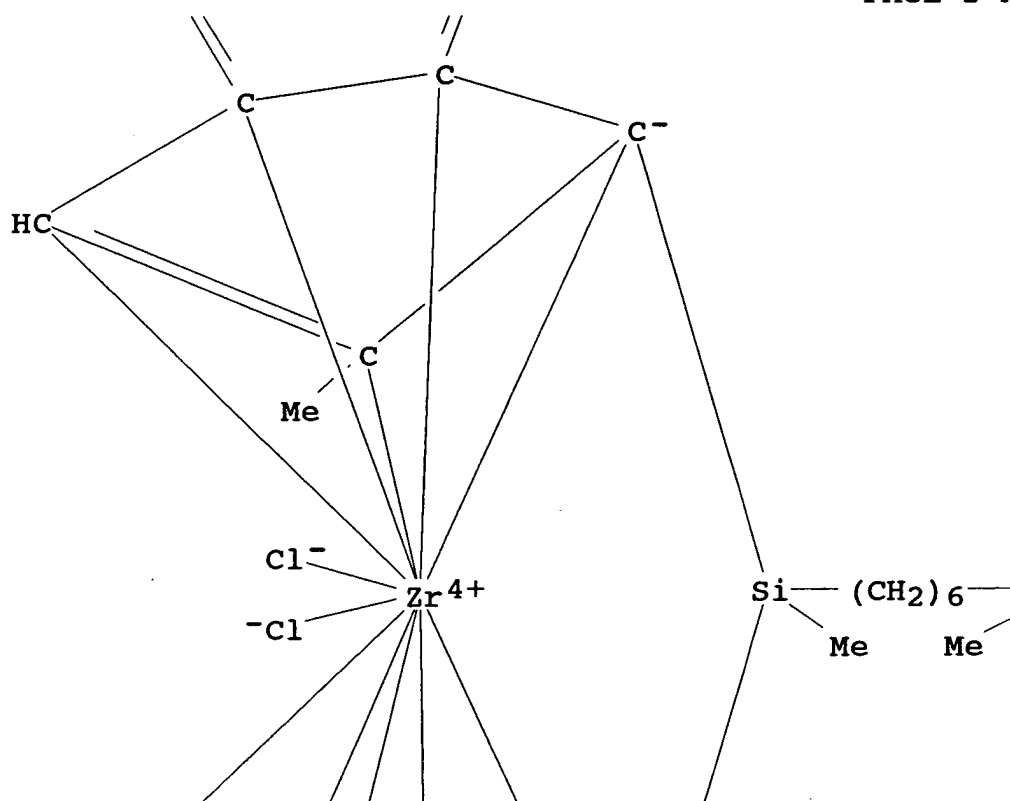
PAGE 1-A



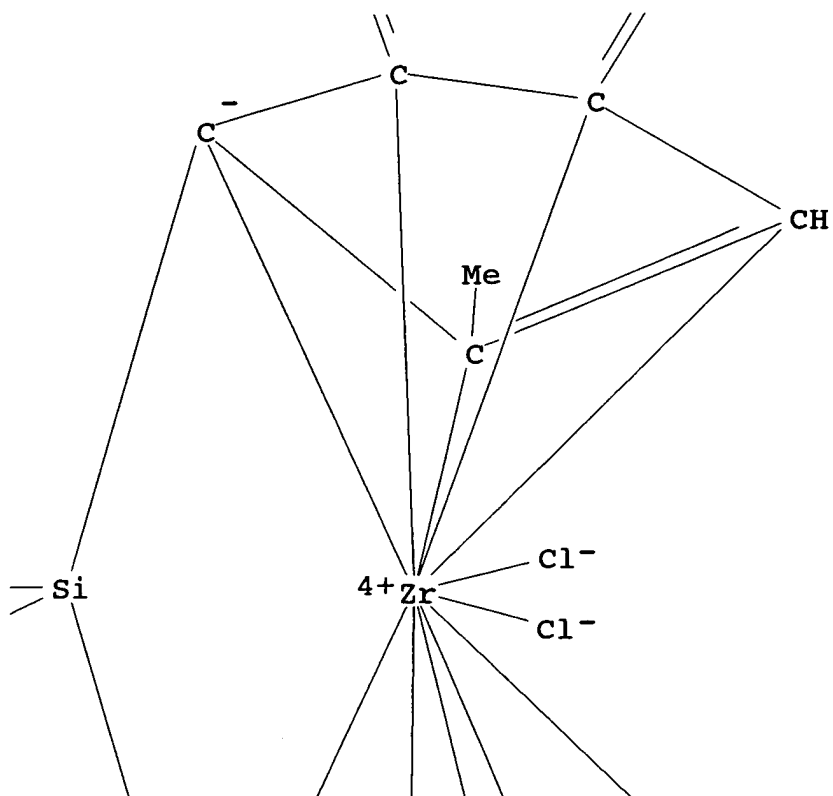
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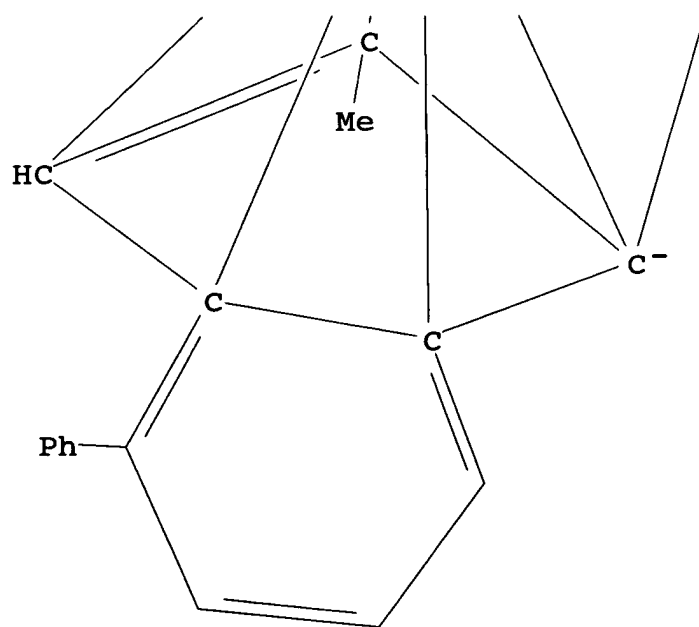
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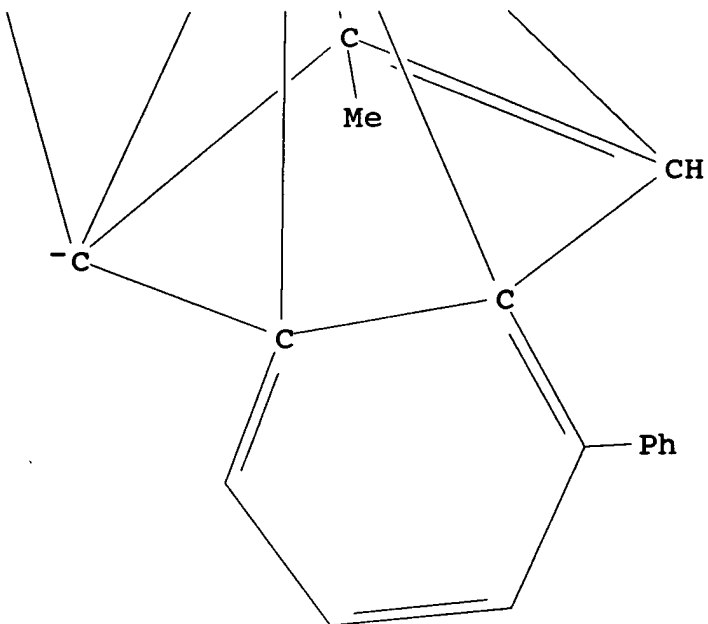
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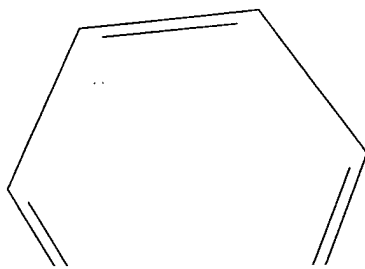


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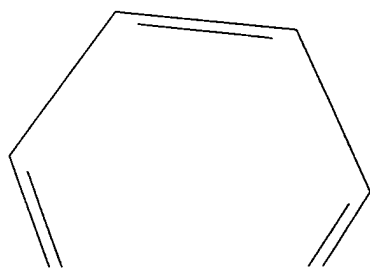


RN 167270-25-9 CAPLUS
CN Zirconium, tetrachloro[.mu.-[.eta.10:.eta.10-1,1'-[1,2-ethanediylbis(1H-inden-1-ylmethylsilylene)]bis[2-methyl-4-phenyl-1H-indenato]](4-)]di- (9CI) (CA INDEX NAME)

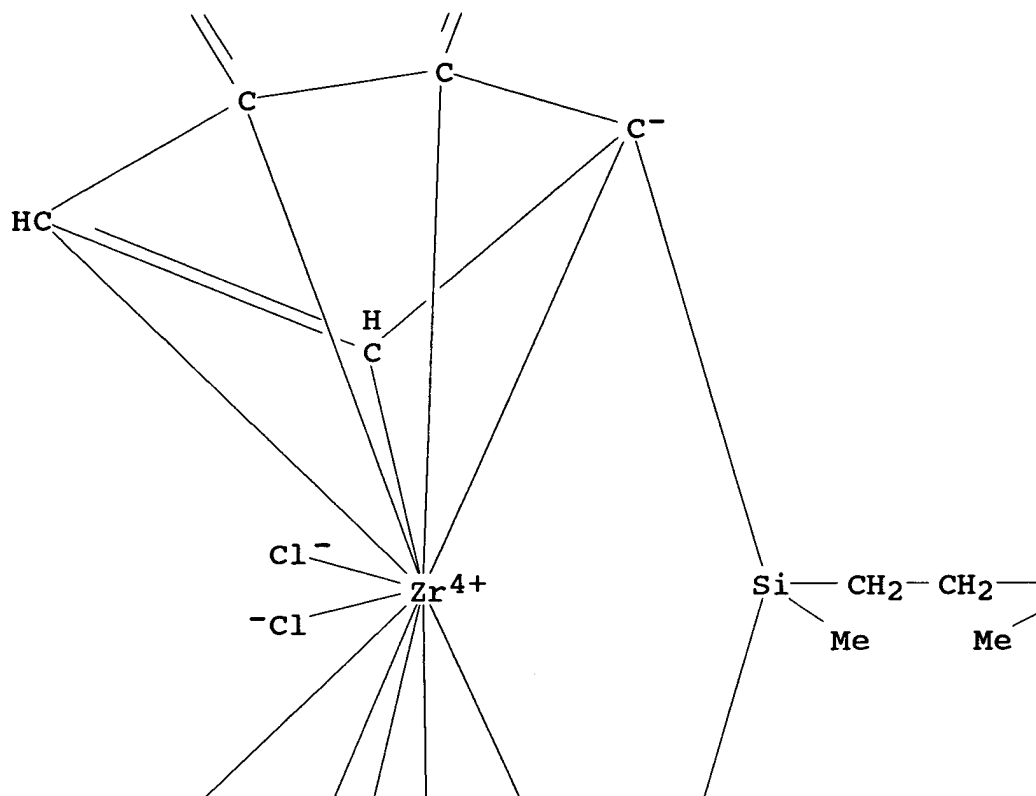
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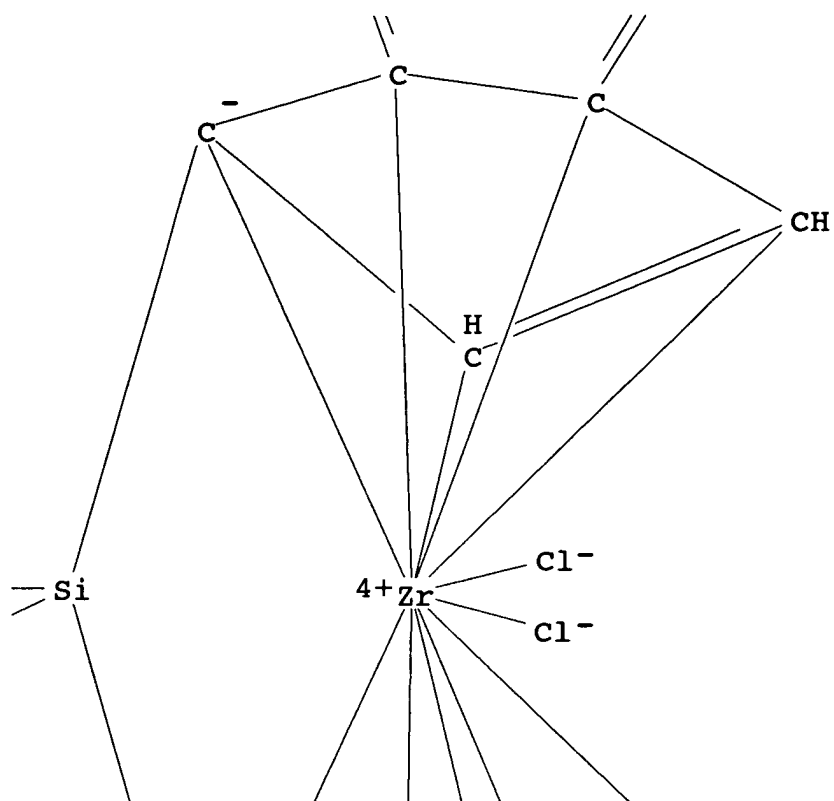
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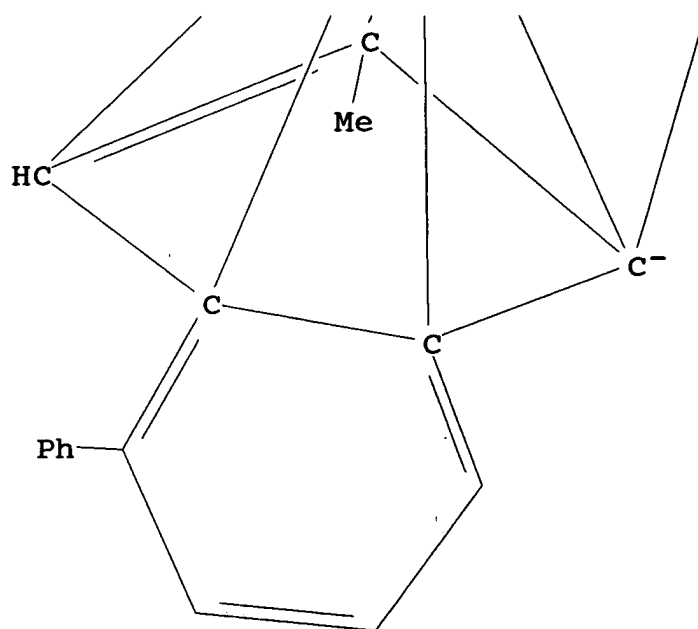
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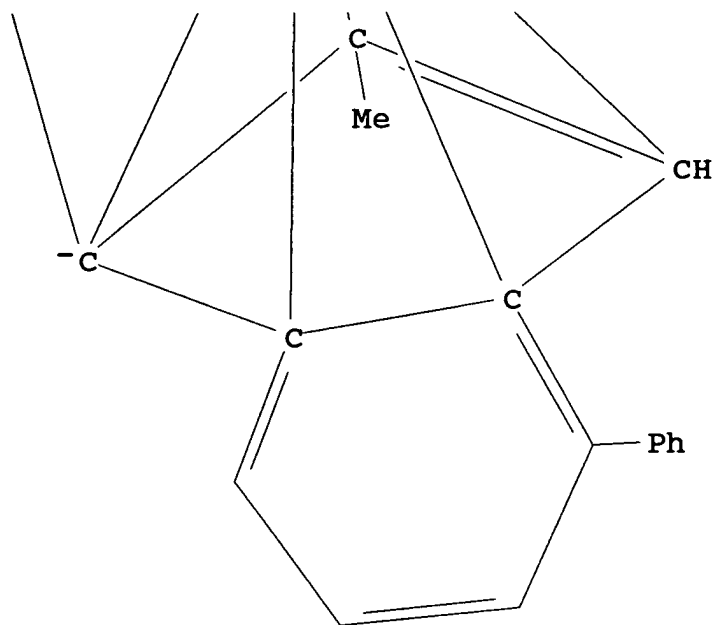
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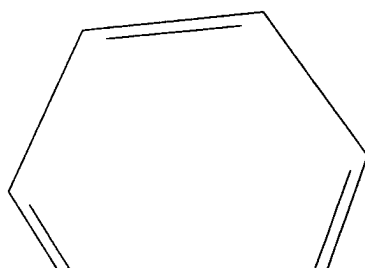


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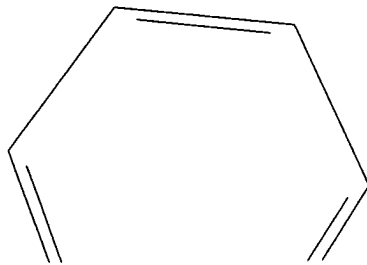


RN 167270-28-2 CAPLUS
CN Zirconium, tetrachloro[.mu.-[.eta.10:.eta.10-1,1',1'',1'''-[1,6-hexanediylbis(methylsilylidyne)]tetrakis(1H-inden-1-ylidene)]]di-(9CI) (CA INDEX NAME)

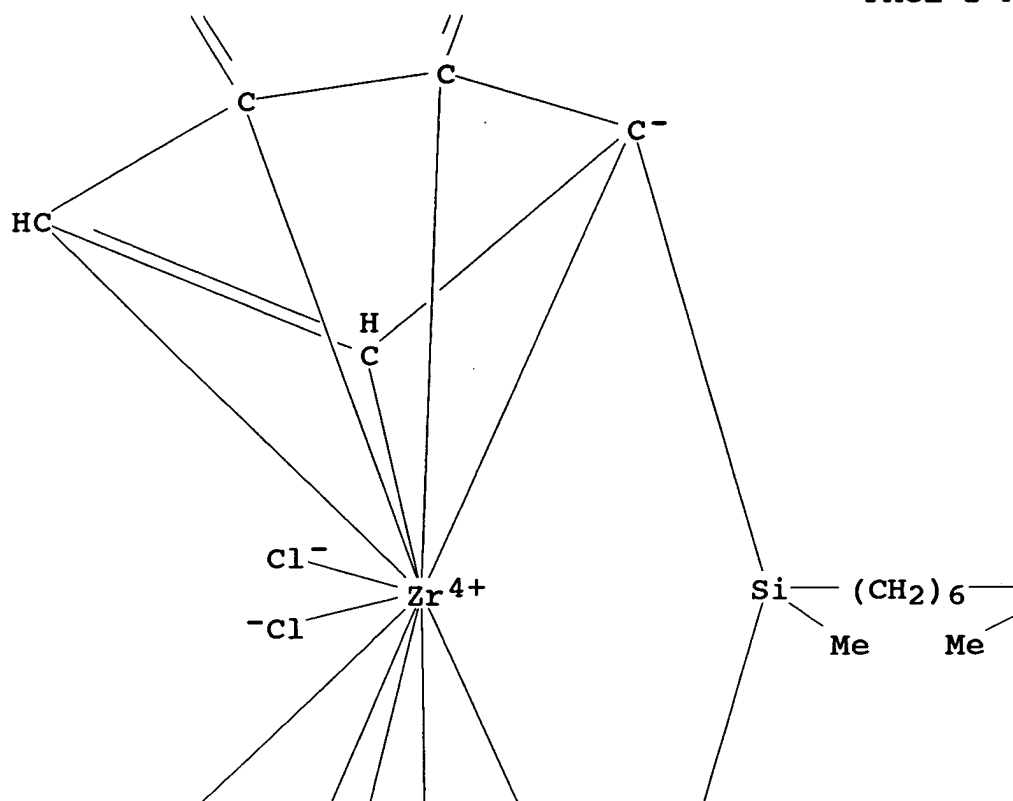
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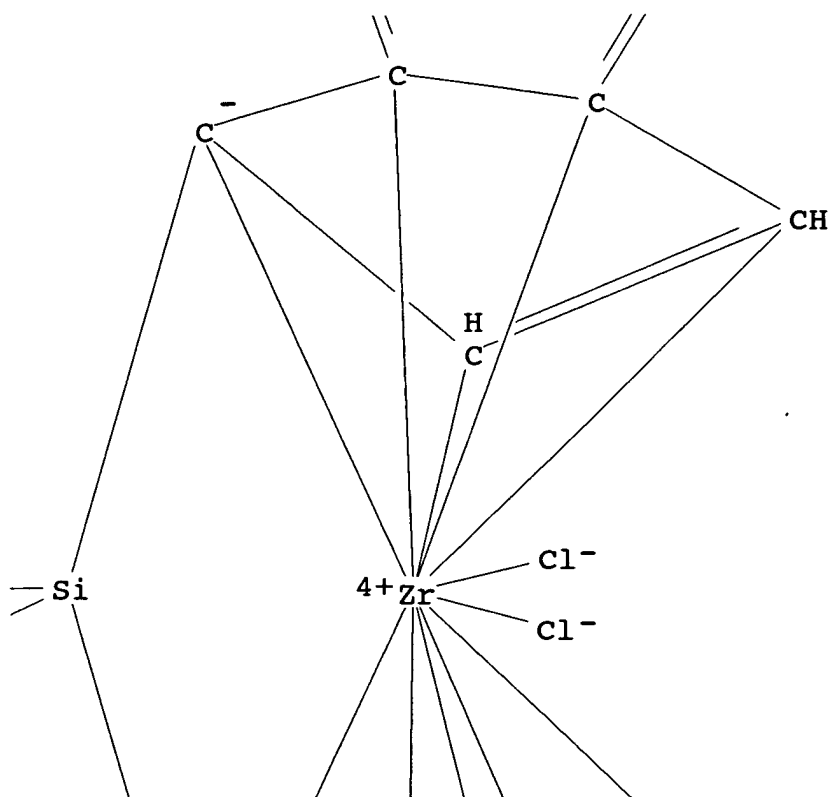
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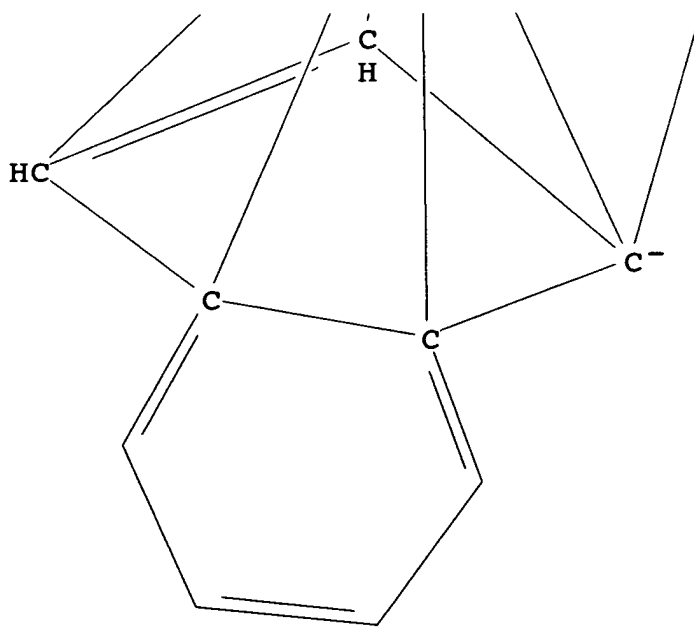
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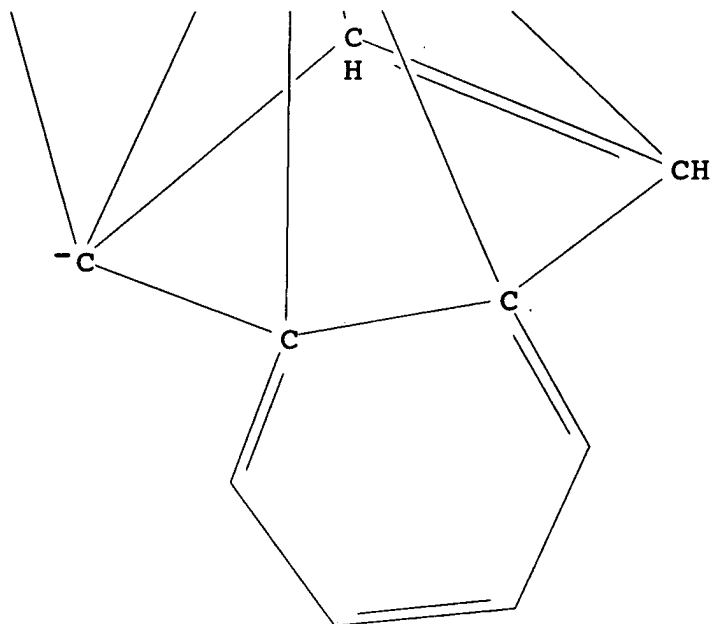
PAGE 2-B



PAGE 3-A



PAGE 3-B



RN 167270-29-3 CAPLUS
 CN Zirconium, tetrachloro[.mu.-[.eta.10:.eta.10-3,3',3'',3'''-[1,6-hexanediylbis(methylsilylidyne)]tetrakis(2-methyl-3H-benz[e]inden-3-ylidene)]]di- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 167270-30-6 CAPLUS
 CN Zirconium, tetrachloro[.mu.-[.eta.10:.eta.10-3,3',3'',3'''-[1,2-ethanediylbis(methylsilylidyne)]tetrakis(2-methyl-3H-benz[e]inden-3-ylidene)]]di- (9CI) (CA INDEX NAME)

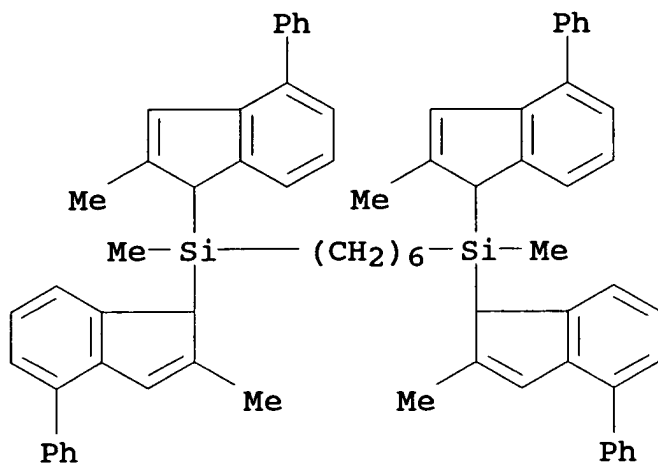
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 167270-31-7P 167270-32-8P 167270-33-9P
 167270-34-0P 167270-37-3P 167270-38-4P
 167270-39-5P

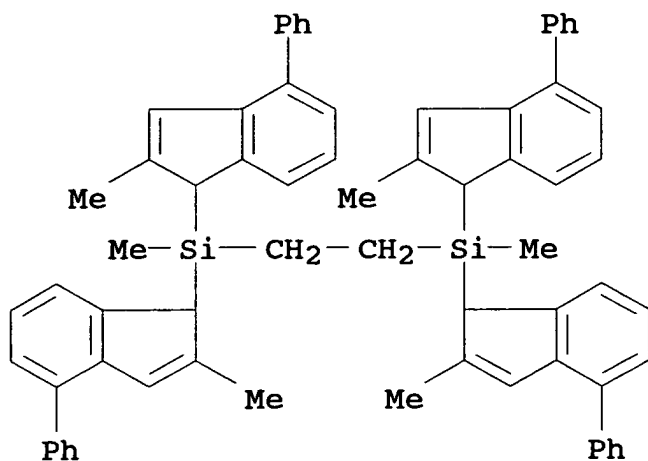
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation)

(prepn. of metallocene derivs. as olefin polymn. catalysts)

RN 167270-31-7 CAPLUS
 CN Silane, 1,6-hexanediylbis[methylbis(2-methyl-4-phenyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)]

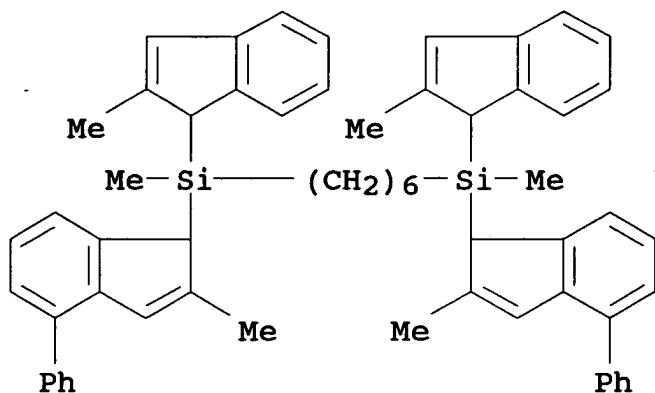


RN 167270-32-8 CAPLUS

CN Silane, 1,2-ethanediylbis[methylbis(2-methyl-4-phenyl-1H-inden-1-yl)-
(9CI) (CA INDEX NAME)]

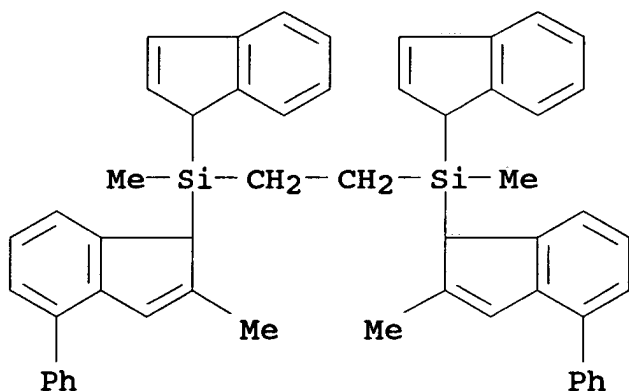
RN 167270-33-9 CAPLUS

CN Silane, 1,6-hexanediylbis[methyl(2-methyl-1H-inden-1-yl)(2-methyl-4-
phenyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)]



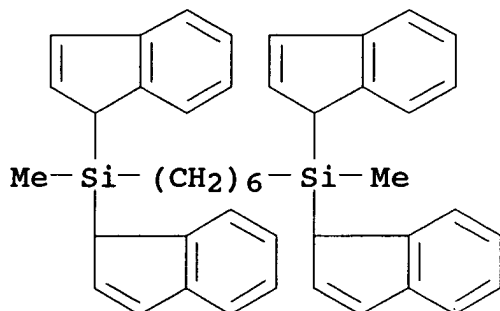
RN 167270-34-0 CAPLUS

CN Silane, 1,2-ethanediylbis[1H-inden-1-ylmethyl(2-methyl-4-phenyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



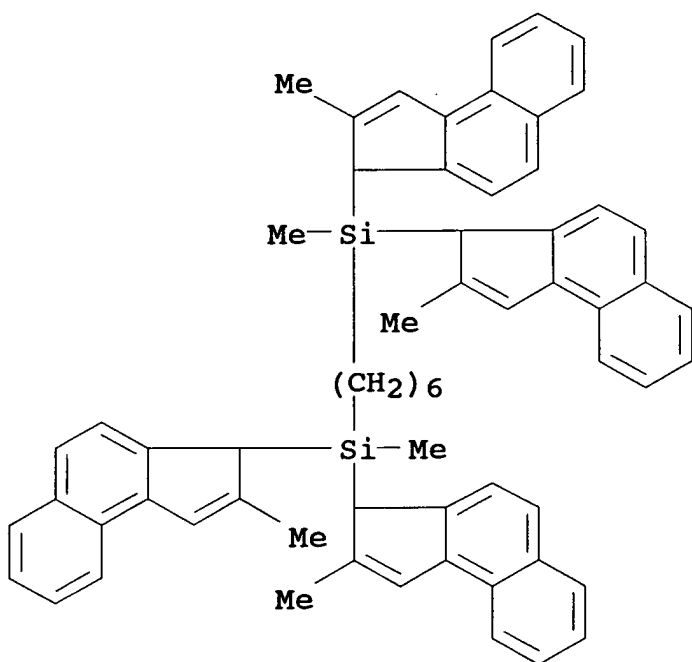
RN 167270-37-3 CAPLUS

CN Silane, 1,6-hexanediylbis[di-1H-inden-1-ylmethyl- (9CI) (CA INDEX NAME)

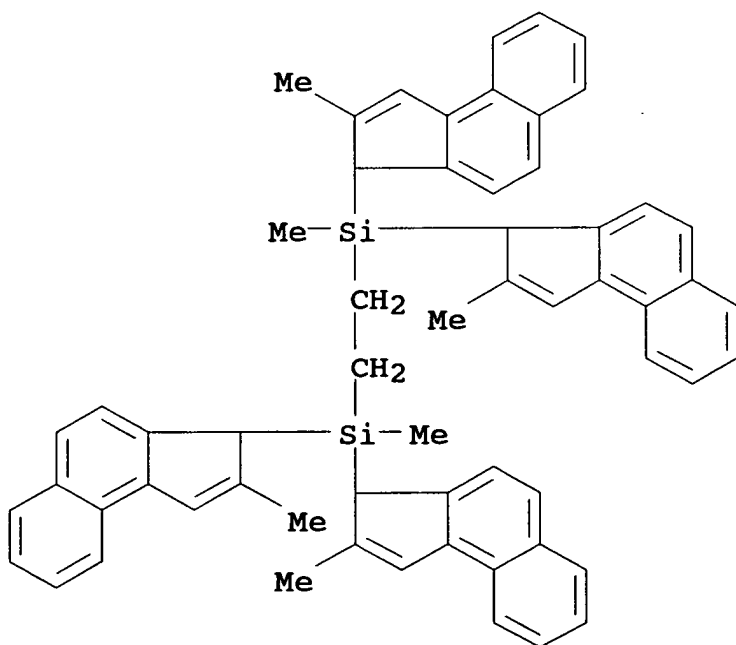


RN 167270-38-4 CAPLUS

CN Silane, 1,6-hexanediylbis[methylbis(2-methyl-3H-benz[e]inden-3-yl)methyl- (9CI) (CA INDEX NAME)



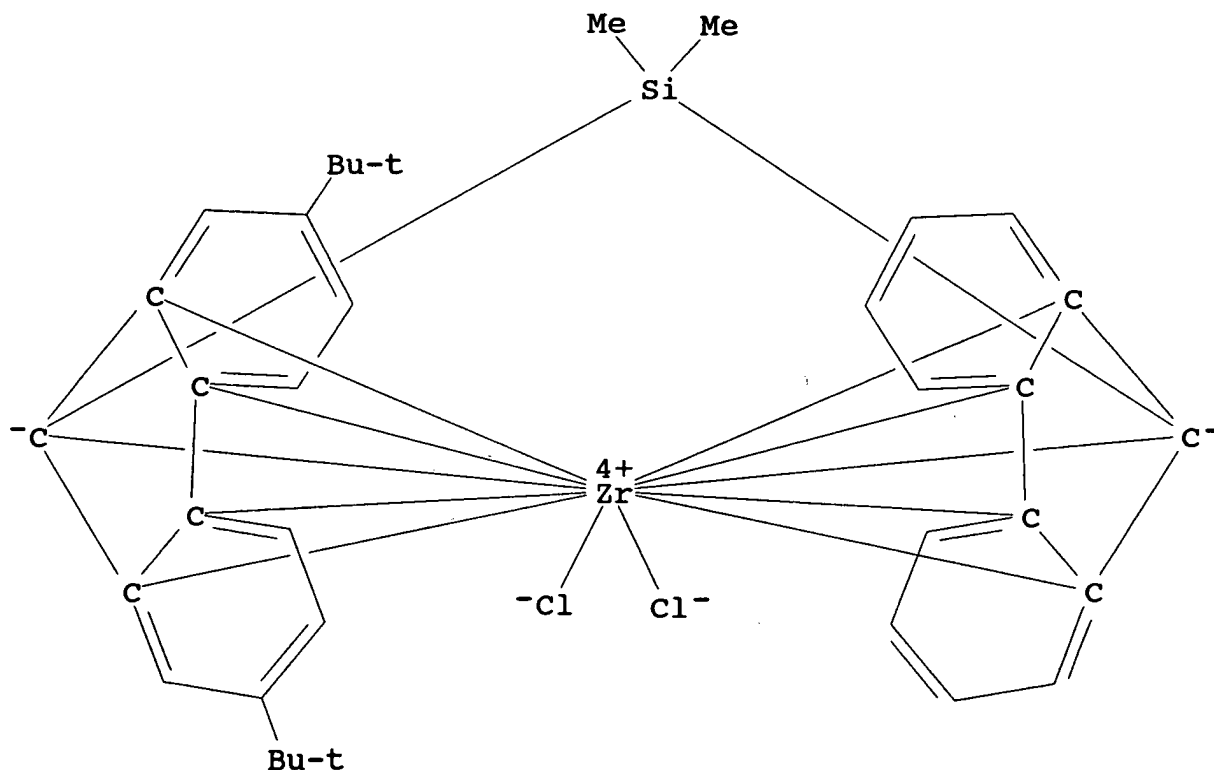
RN 167270-39-5 CAPLUS
CN Silane, 1,2-ethanediylbis[2-methyl-3H-benz[e]inden-3-yl]-
(9CI) (CA INDEX NAME)



L49 ANSWER 19 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:772610 CAPLUS
DN 123:170564

Searched by Barb O'Bryen, STIC 308-4291

TI Olefin polymerization using silyl-bridged metallocenes as catalyst
IN Palackal, Syriac J.; Alt, Helmut G.; Patsidis, Konstantinos; Hill,
Tara G.; Hawley, Gil R.; Chu, Peter P.; Welch, M. Bruce; Geerts,
Rolf L.
PA Phillips Petroleum Co., USA
SO U.S., 15 pp. Cont.-in-part of U.S. Ser. No. 734,853.
CODEN: USXXAM
PI US 5401817 A 950328
AI US 93-64630 930520
PRAI US 91-697363 910509
US 91-734853 910723
US 92-984054 921130
DT Patent
LA English
OS MARPAT 123:170564
AB Fluorenyl-contg. silyl bridged metallocenes are used as catalyst for
olefin polymn. Syndiotactic polypropylene was produced by using
dimethylsilyl (fluorenyl) (cyclopentadienyl) zirconium dichloride.
IT **167268-08-8P**
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(olefin polymn. using silyl-bridged metallocenes as catalyst)
RN 167268-08-8 CAPLUS
CN Zirconium, [.eta.10-[2,7-bis(1,1-dimethylethyl)-9H-fluoren-9-
ylidene](dimethylsilylene)-9H-fluoren-9-ylidene]dichloro- (9CI) (CA
INDEX NAME)



IT **167268-10-2P**

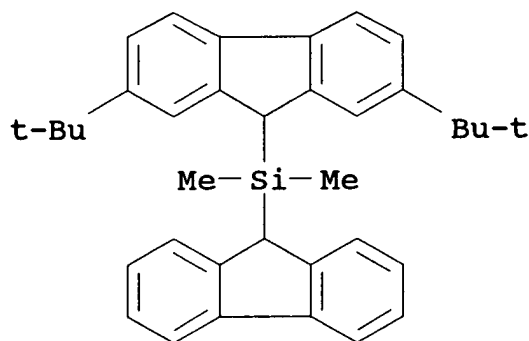
Searched by Barb O'Bryen, STIC 308-4291

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation)

(prepn of silyl-bridged metallocene catalysts for olefin polymn.)

RN 167268-10-2 CAPLUS

CN Silane, [2,7-bis(1,1-dimethylethyl)-9H-fluoren-9-yl]-9H-fluoren-9-yl-
dimethyl- (9CI) (CA INDEX NAME)



L49 ANSWER 20 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1995:761641 CAPLUS

DN 123:169901

TI Preparation of novel transition metal compounds as olefin
polymerization catalyst and process for olefin polymerization

IN Imuta, Junichi; Fukuoka, Daisuke; Yoshida, Masayasu; Saito, Junji;
Fujita, Terunori; Tashiro, Takashi; Kawaai, Koji; Ueda, Takashi;
Kiso, Yoshihisa

PA Mitsui Petrochemical Industries, Ltd., Japan

SO Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

PI EP 653433 A1 950517

DS R: DE, FR, GB, IT, NL

AI EP 94-308265 941109

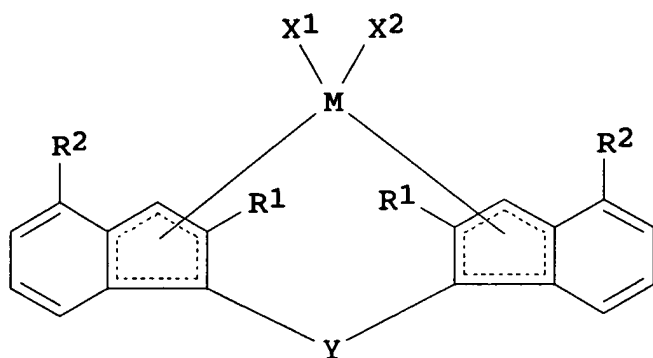
PRAI JP 93-283778 931112

DT Patent

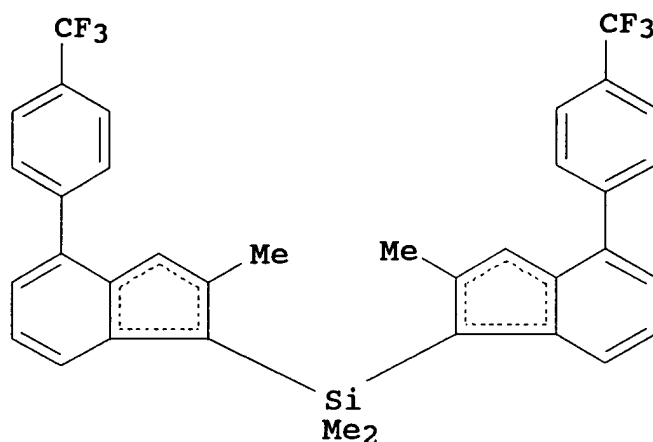
LA English

OS CASREACT 123:169901; MARPAT 123:169901

GI



I



II

AB The prepn. of title compds. I (M = Group IVA, Va, or VIA transition metal; R1 = C1-20 hydrocarbon; R2 = C1-20 halogenated hydrocarbon substituted C6-16 aryl; X1, X2 = H, halo, C1-20 hydrocarbon, C1-20 halogenated hydrocarbon, O or S contg. org. group; Y = C1-20 divalent hydrocarbon, C1-20 halogenated divalent hydrocarbon, silicon contg. divalent group, etc.), useful as catalyst for olefin polymn., is described. Thus, lithiation of silylindene II (prepn. given) with BuLi in hexane followed by addn. of ZrCl₄ gave title compd. I (R1 = Me, R2 = 4-trifluoromethylphenyl, X1 = X2 = Cl, M = Zr, Y = SiMe₂) (III). III catalyzed polymn. of propylene was also described.

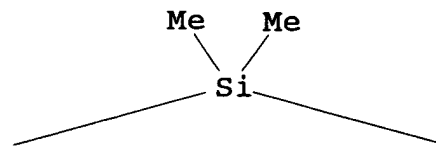
IT 167021-59-2P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(prepn. of novel transition metal compds. as olefin polymn. catalyst and process for olefin polymn.)

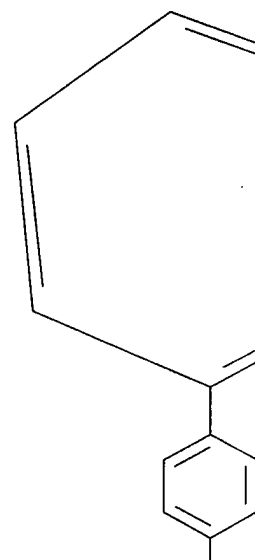
RN 167021-59-2 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-2-methyl-4-[4-(trifluoromethyl)phenyl]-1H-inden-1-ylidene]]- (9CI)
(CA INDEX NAME)

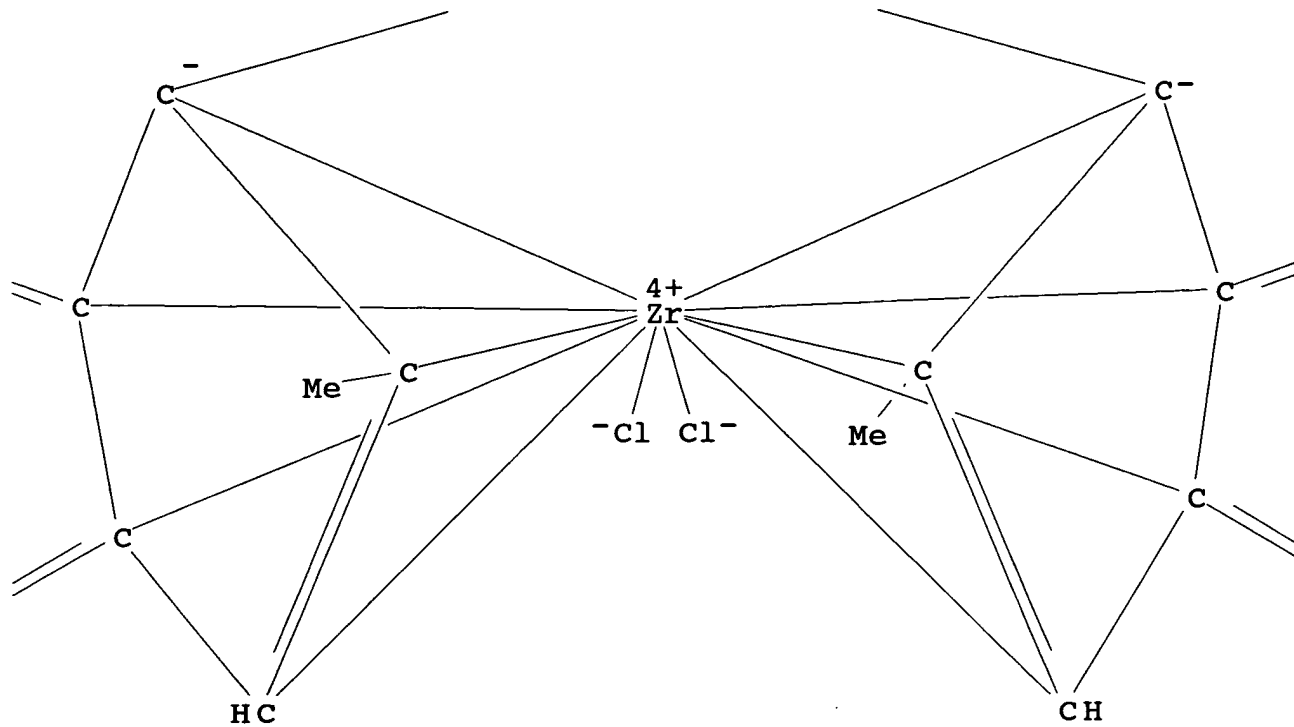
PAGE 1-B



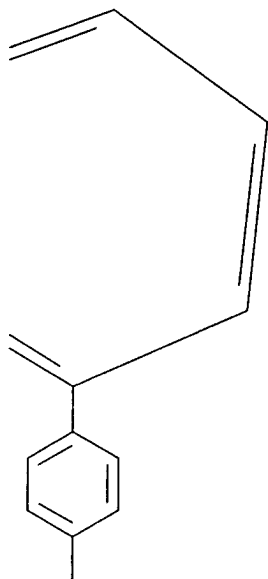
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PAGE 2-C



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|
CF₃

PAGE 3-C

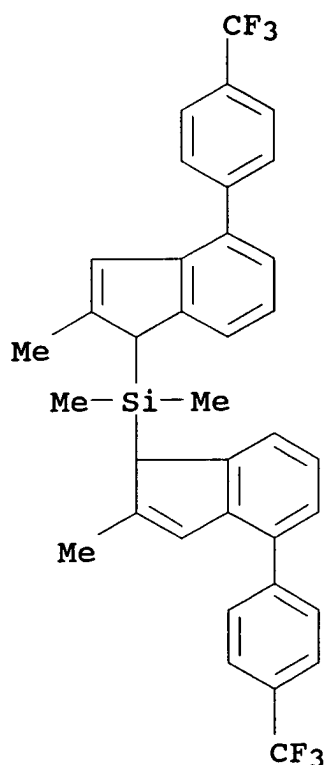
CF₃

IT 167021-58-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation)(prepn., lithiation, and sequential reaction with zirconium
tetrachloride)

RN 167021-58-1 CAPLUS

CN Silane, dimethylbis[2-methyl-4-[4-(trifluoromethyl)phenyl]-1H-inden-
1-yl]- (9CI) (CA INDEX NAME)



L49 ANSWER 21 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1995:713695 CAPLUS
DN 123:85829
TI Polyolefin fibers, method of production and fabrics from
IN Stahl, G. Allan; McAlpin, James John
PA Exxon Chemical Patents, Inc., USA
SO PCT Int. Appl., 48 pp.
CODEN: PIXXD2
PI WO 9428219 A1 941208
DS W: AU, CA, CN, JP
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
AI WO 94-US6017 940525
PRAI US 93-66737 930525
US 93-164520 931209
DT Patent
LA English
AB Title fibers comprise reactor-grade polyolefins produced by single-site catalysis. Polyolefins with a melt flow rate of .ltoreq.5000 dg/min and MWD of 1.0-3.5 was also claimed. Isotactic polypropylene with MFR 40 produced using a metallocene catalyst, (catalyst prepn. given) was spun at 2000 m/min to give fibers with tenacity of 3.54 g/denier, compared to 1.51 g/denier for a fiber prepd. from Ziegler-Natta catalyst-produced polypropylene with MFR 35 spun at 2000 m/min. Spun-bonded and melt blown webs were manufd. using polypropylene produced by single-site catalysis giving improved web strength and better air filtration properties.
IT 150096-53-0P

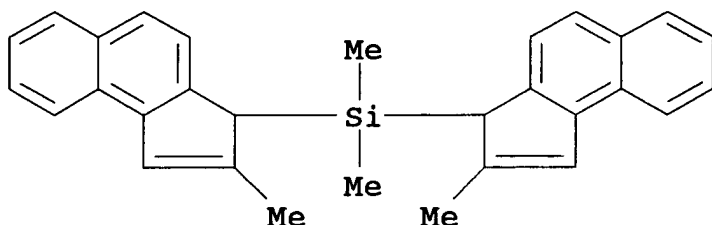
Searched by Barb O'Bryen, STIC 308-4291

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)

(in manuf. of single-site polymn. catalyst)

RN 150096-53-0 CAPLUS

CN Silane, dimethylbis(2-methyl-3H-benz[e]inden-3-yl)- (9CI) (CA INDEX NAME)



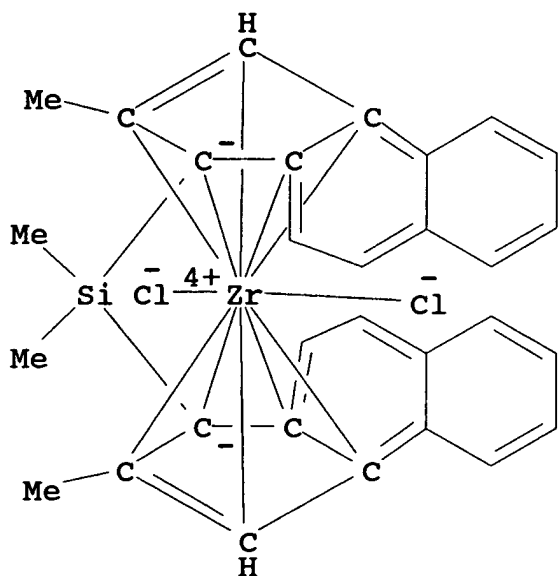
IT 161442-55-3P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(single-site polymn. catalyst for olefins; manuf. of)

RN 161442-55-3 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,9b-eta.)-2-methyl-3H-benz[e]inden-3-ylidene]]- (9CI) (CA INDEX NAME)



L49 ANSWER 22 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1995:699781 CAPLUS

DN 123:112839

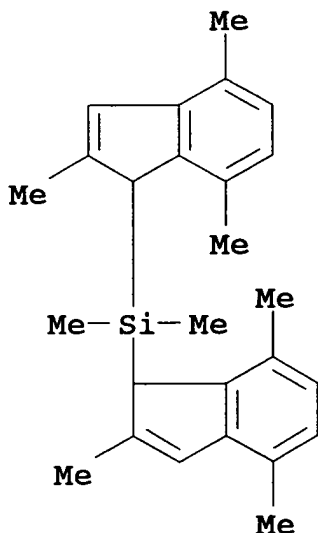
TI Crystal structure and propene polymerization characteristics of bridged zirconocene catalysts

AU Kaminsky, W.; Rabe, O.; Schauwienold, A.-M.; Schupfner, G. U.; Hanss, J.; Kopf, J.

CS Institut fuer Technische und Makromolekulare Chemie, Bundesstrasse

Searched by Barb O'Bryen, STIC 308-4291

45, Universitaet Hamburg, Hamburg, D-20146, Germany
SO J. Organomet. Chem. (1995), 497(1-2), 181-93
CODEN: JORCAI; ISSN: 0022-328X
DT Journal
LA English
OS CJELSEVIER
AB The synthesis, crystal structure and propene polymn. behavior of 4 bridged zirconocene dichlorides is presented. All catalysts gave isotactic polypropene (iPP). Me substitutions at the 2-, 4- and 7-positions of the bridged bis(indenyl)zirconocene dichlorides were introduced. The Me substituent in the 7-position of the indenyl ring induces a significant steric interaction with the bridging group. On comparison of the 2,4,7-Me substituted catalysts with their unsubstituted counterparts, only the ethylidene bridged catalyst rac-1,2-ethylidene-bis(2,4,7-trimethyl-1-indenyl)zirconium dichloride (I) is forced into the optimum geometry for the polymn. Owing to the steric bulk at the bridge catalyst I is very rigid with respect to the movement of the indenyl rings and the metal center thus produces highly iPP even up to high polymn. temps. Mol. mechanics calcns. and temp.-dependent NMR measurements demonstrate that catalyst I is not able to equilibrate between the .lambda. and .delta. conformational state as the corresponding rac-1,2-ethylidene-bis(-1-indenyl)zirconium dichloride catalyst does. In the case of the catalyst isopropyliden((3-tert-butyl)cyclopentadienyl-9-fluorenyl)zirconium dichloride the substitution in the 3-position changes the symmetry from Cs to C1. This catalyst produces iPP but with a decreased polymn. activity.
IT 166601-20-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(in synthesis bridged zirconocene dichlorides as catalysts for polymn. of propylene)
RN 166601-20-3 CAPLUS
CN Silane, dimethylbis(2,4,7-trimethyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



IT 115701-70-7P 166601-14-5P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)

(synthesis, crystal structure and polymn. behavior of isotactic
polypropene with 4 bridged zirconocene dichlorides as catalysts)

RN 115701-70-7 CAPLUS

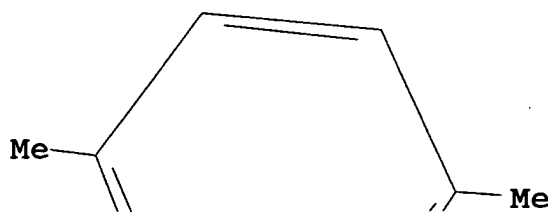
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-
4,5,6,7-tetrahydro-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

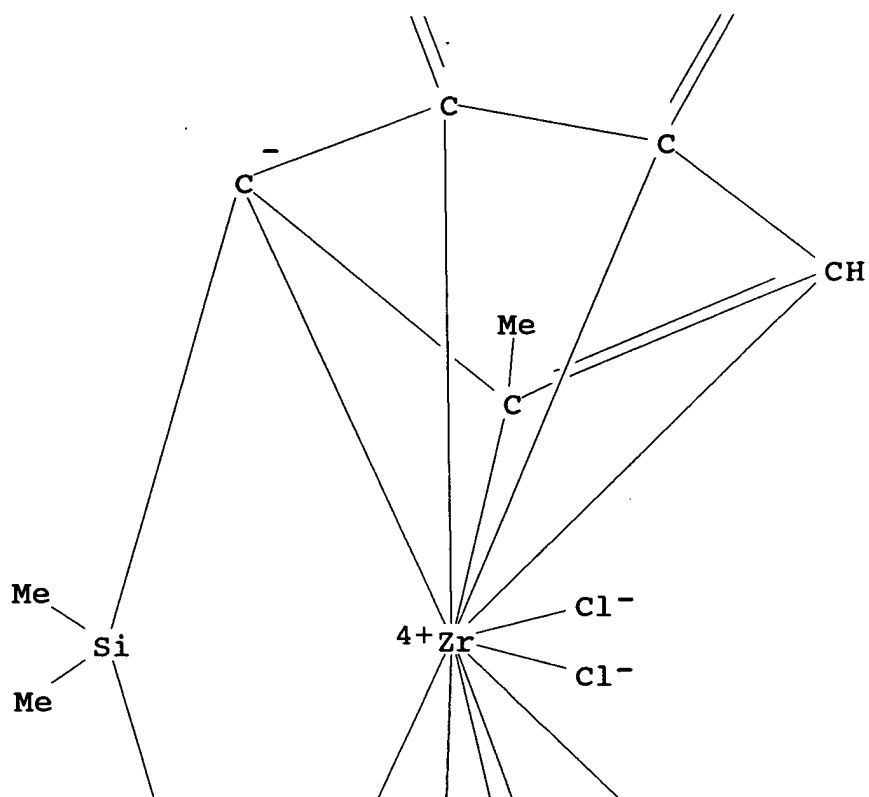
RN 166601-14-5 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2,4,7-
trimethyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

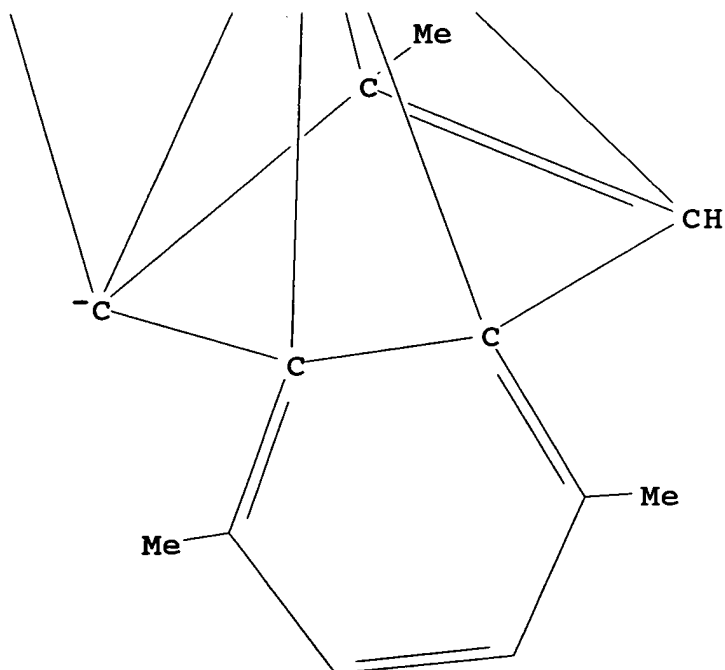
PAGE 1-A



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L49 ANSWER 23 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1995:699761 CAPLUS

DN 123:112834

TI Silylene-bridged fluorenyl-containing ligands and zirconium complexes with C1 and Cs symmetry: general synthesis and olefin polymerization catalysis

AU Chen, You-Xian; Rausch, Marvin D.; Chien, James C. W.

CS Department of Chemistry, Department of Polymer Science and Engineering, Materials Research Laboratories, University of Massachusetts, Amherst, USA

SO J. Organomet. Chem. (1995), 497(1-2), 1-9

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

LA English

OS CJELSEVIER

AB A variety of new silylene-bridged fluorenyl-contg. ligands has been synthesized with good yields via a convenient synthetic route. Two dimethylsilylene-bridged (.eta.5-indenyl)(.eta.5-fluorenyl) and (.eta.5-cyclopentadienyl)(.eta.5-fluorenyl) zirconocene dichlorides with C1 and Cs mol. symmetry have also been prepd. Upon activation with Me aluminoxane, the former produced a polypropylene of high mol. wt., but with low activity and isotacticity. The latter catalyzed non-stereospecific propylene polymn. without any syndiotactic tendency, but with 40 and 20 times greater ethylene and propylene activity resp. than the former catalytic system.

IT 144501-00-8P, (9-Fluorenyl)(1-indenyl)dimethylsilane

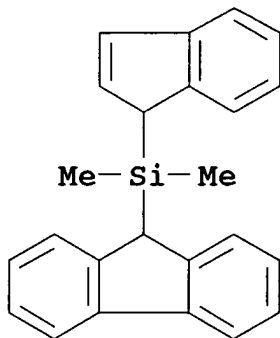
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(intermediate; prepn. of silylene-bridged fluorenyl-contg.

ligands and zirconium complexes with C1 and Cs symmetry for olefin polymn. catalysis)

RN 144501-00-8 CAPLUS

CN Silane, 9H-fluoren-9-yl-1H-inden-1-yl dimethyl- (9CI) (CA INDEX NAME)



IT 151542-16-4P

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

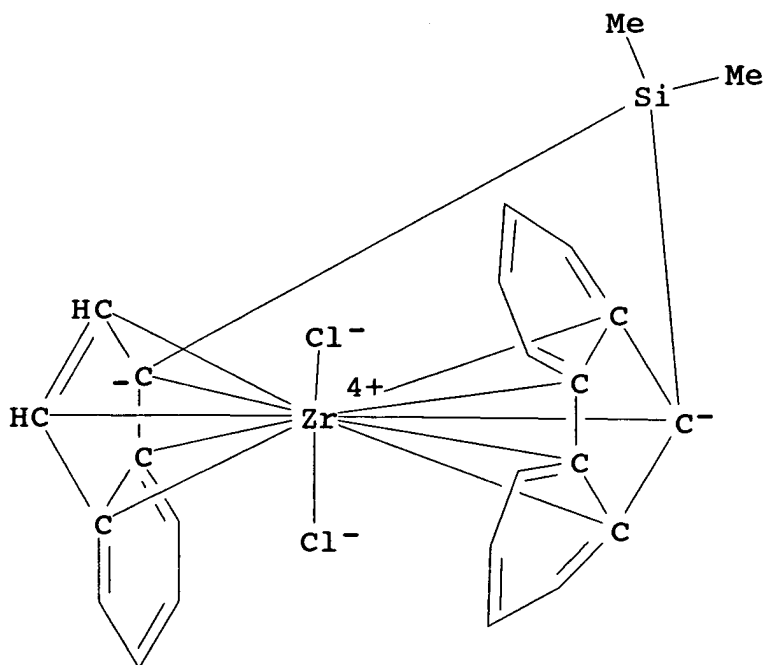
(prepn. of silylene-bridged fluorenyl-contg. ligands and

Searched by Barb O'Bryen, STIC 308-4291

zirconium complexes with C1 and Cs symmetry for olefin polymn.
catalysis)

RN 151542-16-4 CAPLUS

CN Zirconium, dichloro[.eta.10-9H-fluoren-9-ylidene(dimethylsilylene)-
1H-inden-1-ylidene]- (9CI) (CA INDEX NAME)



L49 ANSWER 24 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1995:640678 CAPLUS

DN 123:11617

TI Elastomeric copolymers of ethylene with propylene and process for
their preparation

IN Galimberti, Maurizio; Resconi, Luigi; Albizzati, Enrico

PA Spherilene S.r.l., Italy

SO Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

PI EP 632066 A1 950104

DS R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE

AI EP 94-106975 940504

PRAI IT 93-MI1405 930630

DT Patent

LA English

OS MARPAT 123:11617

AB Amorphous copolymers of ethylene (E) with propylene (P), and
optionally with minor amts. of polyenes, have the following
characteristics: (A) the % content by mole of propylene in the
copolymer (%P) and the triads ratio EPE/(EPE + PPE + PPP) satisfy
the following relationship: $0.01\%P + (EPE)/(EPE + PPE + PPP)$
.2 groups in the chain are in sequences
(CH₂)_n, wherein n is an even no. These copolymers having more
homogeneous propylenic units and narrow mol. wt. distribution are

Searched by Barb O'Bryen, STIC 308-4291

obtainable by polymn. in the presence of particular metallocene catalysts having two fluorenyl groups joined together through a bridging group. Ethylene and propylene were polymd. in hexane and water using triisobutyl aluminum and dimethylsilandiylbis(fluorenyl) zirconium dichloride in PhMe giving an elastomer with the triad ratio 0.956 and intrinsic viscosity 2.08 dL/g (tetraline, 135.degree.).

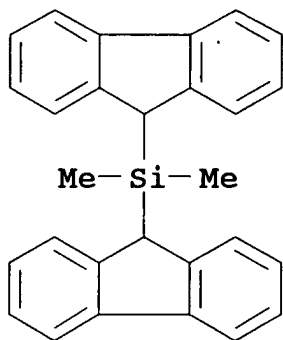
IT 18769-00-1P

RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation)

(catalyst for manuf. of ethylene-propylene rubber with narrow mol. wt. distribution and homogeneous propylenic unit)

RN 18769-00-1 CAPLUS

CN Silane, di-9H-fluoren-9-ylidimethyl- (9CI) (CA INDEX NAME)



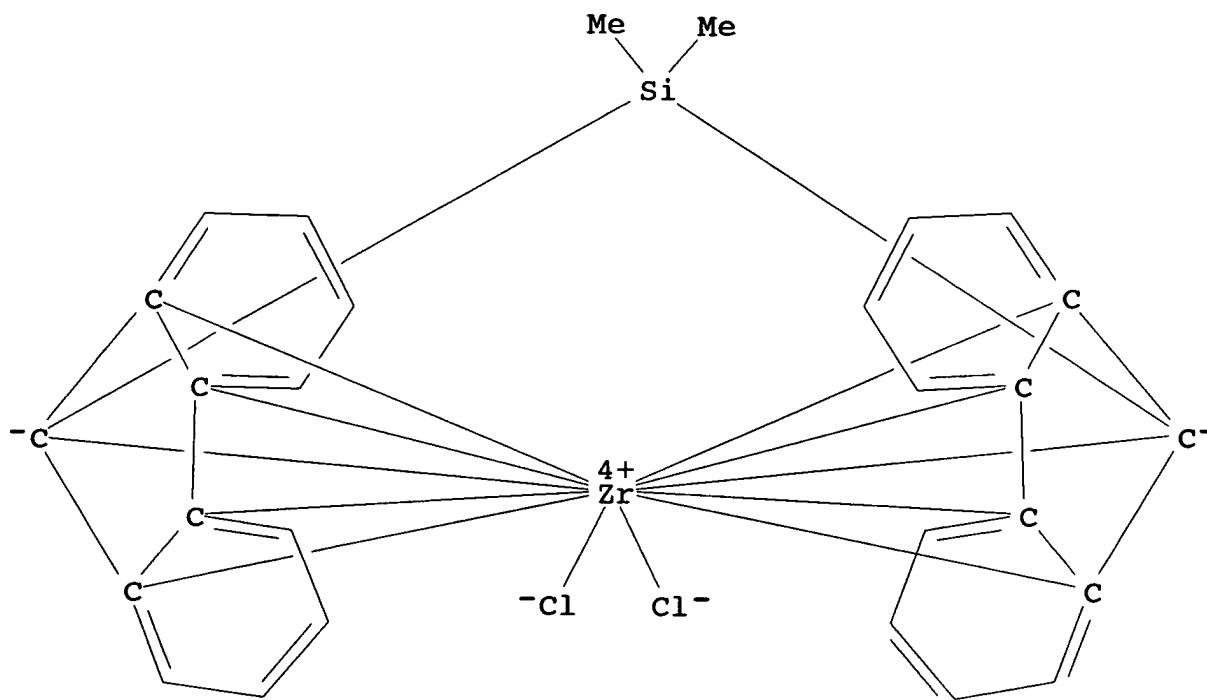
IT 148799-45-5P

RL: CAT (Catalyst use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

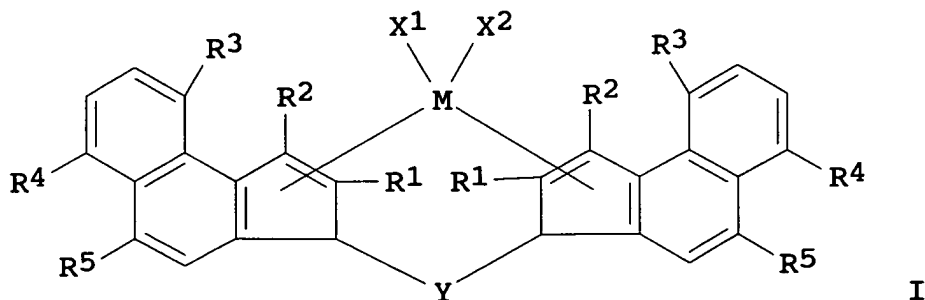
(reaction products with aluminoxane; catalyst for manuf. of ethylene-propylene rubber with narrow mol. wt. distribution and homogeneous propylenic unit)

RN 148799-45-5 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(4a,4b,8a,9,9a-.eta.)-9H-fluoren-9-ylidene]]- (9CI) (CA INDEX NAME)



L49 ANSWER 25 OF 43 CAPLUS COPYRIGHT 1996 ACS
 AN 1995:610588 CAPLUS
 DN 123:113095
 TI Bisenaphthindenyl-derived transition metal complexes as stereoregular polymerization catalysts for olefins
 IN Fujita, Terunori; Hirose, Takaharu; Saito, Junji; Ueda, Takashi; Kiso, Yoshihisa
 PA Mitsui Petrochemical Ind, Japan
 SO Jpn. Kokai Tokkyo Koho, 24 pp.
 CODEN: JKXXAF
 PI JP 07010927 A2 950113 Heisei
 AI JP 93-155640 930625
 DT Patent
 LA Japanese
 OS MARPAT 123:113095
 GI



AB The title complexes such as I [M = Group IVa, Va, and VIa transition metals; R1, R2 = H, halogens, (halo)hydrocarbyl, Si-, O-, P-, S-, N-contg. groups; R3, R4, R5 = (halo)hydrocarbyl, R4 and R5 may make a ring together; X1, X2 = H, halogens, (halo)hydrocarbyl, O- or S-contg. groups; Y = specified difunctional groups] are used with co-catalysts such as organoaluminoxanes, organoaluminum compds., etc. and exhibit high polymn. activity.

IT 150995-52-1P

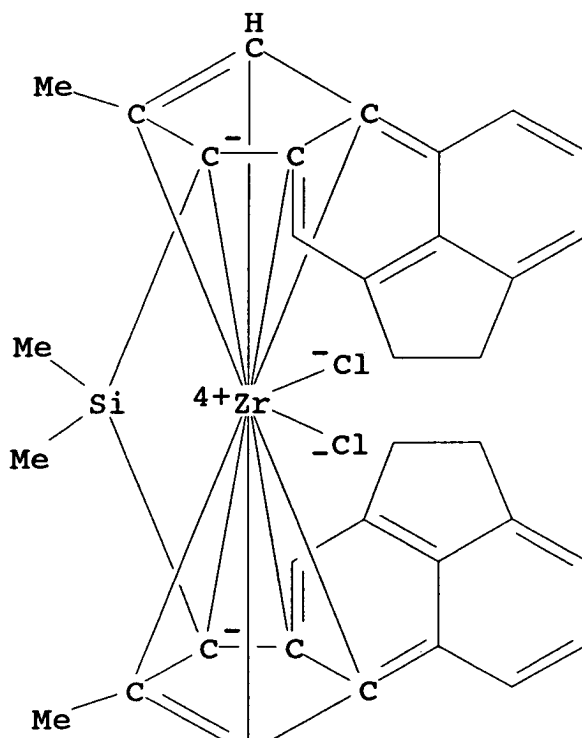
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(bisenaphthindenyl-derived transition metal complexes as stereoregular polymn. catalysts for olefins)

RN 150995-52-1 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(6a,7,8,9,9a-.eta.)-4,5-dihydro-8-methyl-7H-cyclopent[e]acenaphthylen-7-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

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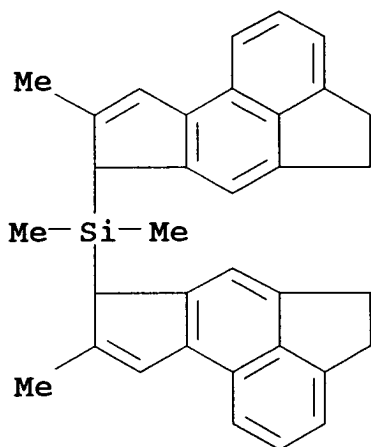
IT 150096-56-3

RL: RCT (Reactant)

(bisenaphthindenyl-derived transition metal complexes as stereoregular polymn. catalysts for olefins)

RN 150096-56-3 CAPLUS

CN Silane, bis(5,7-dihydro-8-methyl-4H-cyclopent[e]acenaphthylen-7-yl)dimethyl- (9CI) (CA INDEX NAME)



L49 ANSWER 26 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1995:610578 CAPLUS

DN 123:257779

TI Novel transition metal compounds and polymerization catalysts for olefins containing the transition metal compounds and manufacture of polyolefins

IN Fujita, Terunori; Hirose, Takaharu; Saito, Junji; Ueda, Takashi; Kiso, Yoshihisa

PA Mitsui Petrochemical Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 27 pp.

CODEN: JKXXAF

PI JP 06345809 A2 941220 Heisei

AI JP 93-136254 930607

DT Patent

LA Japanese

OS MARPAT 123:257779

GI For diagram(s), see printed CA Issue.

AB Catalysts contain transition metal metallocenes, org. aluminoxy compds. and/or compds. reacting with transition metal compds. to form ion pairs, and organoaluminum compds. Thus, zirconocene I was prepd. and used in the polymn. of propylene with iso-Bu₃Al and methylaluminumoxane.

IT 150995-52-1P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

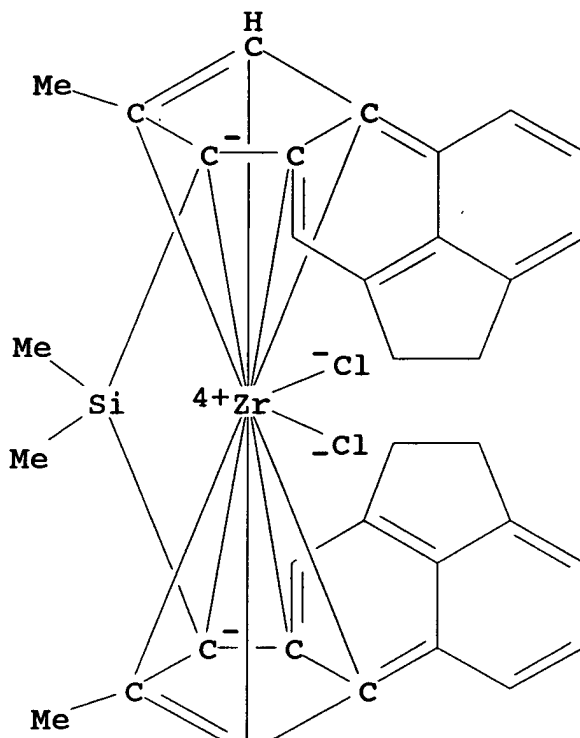
(catalysts contg. zirconocenes and methylaluminumoxane and organoaluminum compds. for polymn. of propylene)

RN 150995-52-1 CAPLUS

Searched by Barb O'Bryen, STIC 308-4291

CN Zirconium, dichloro[(dimethylsilylene)bis[(6a,7,8,9,9a-eta.)-4,5-dihydro-8-methyl-7H-cyclopent[e]acenaphthylen-7-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

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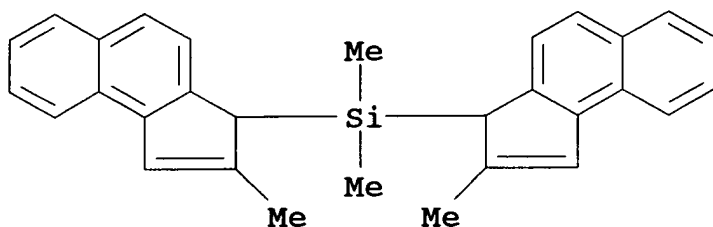


IT 150096-53-0P 150096-56-3P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation)
(manuf. and reaction with butyllithium)

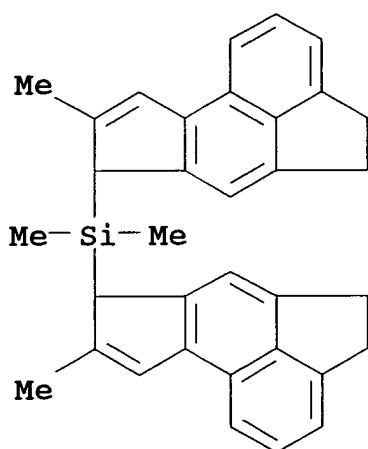
RN 150096-53-0 CAPLUS

CN Silane, dimethylbis(2-methyl-3H-benz[e]inden-3-yl)- (9CI) (CA INDEX NAME)



RN 150096-56-3 CAPLUS

CN Silane, bis(5,7-dihydro-8-methyl-4H-cyclopent[e]acenaphthylen-7-yl)dimethyl- (9CI) (CA INDEX NAME)



IT 150995-51-0P

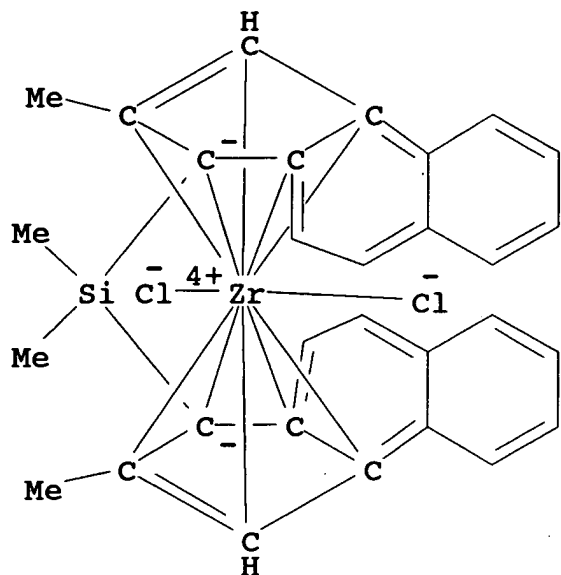
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(rcatalysts contg. zirconocenes and methylaluminoxane and organoaluminum compds. for polymn. of propylene)

RN 150995-51-0 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,9b-.eta.)-2-methyl-3H-benz[e]inden-3-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)



L49 ANSWER 27 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1995:377074 CAPLUS

DN 122:240708

TI .alpha.-Olefin polymerization catalyst components and manufacture of polyolefins with high molecular weight and melting point using the same

IN Sugano, Toshihiko; Uchino, Hidefumi; Takahama, Tomohiko

PA Mitsubishi Petrochemical Co., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

PI JP 06172433 A2 940621 Heisei

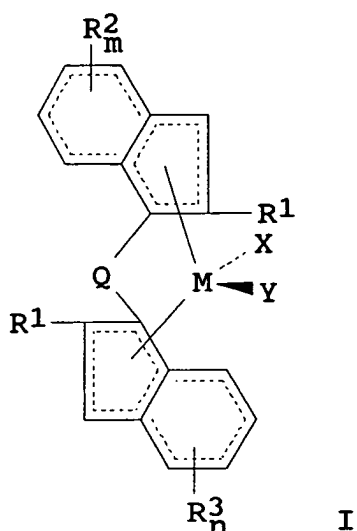
AI JP 92-324460 921203

DT Patent

LA Japanese

OS MARPAT 122:240708

GI



AB The title catalyst components contain I (R1 = C1-6 hydrocarbyl, C1-12 Si-contg. hydrocarbyl; R2, R3 = C1-12 hydrocarbyl, C1-20 Si-contg. hydrocarbyl; m, n = 1-4; Q = C1-20 divalent hydrocarbyl, silylene with or without C1-20 hydrocarbyl group, germylene; X, Y = H, halogen, C1-10 hydrocarbyl, C1-12 Si-, P-, or N-contg. hydrocarbyl, C1-10 alkoxy; M = IVB-VIB transition metal). Polypropylene with Mn 11.20 .times. 104, mol. wt. distribution 2.85, and m.p. 153.4.degree. was prepd. in the presence of Me aluminoxane and ethylenebis(2,4-dimethylindenyl)zirconium dichloride.

IT 152686-19-6P

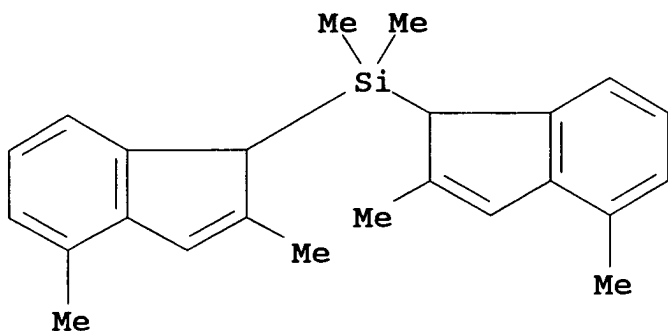
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)

(manuf. and reaction with zirconium tetrachloride)

RN 152686-19-6 CAPLUS

CN Silane, bis(2,4-dimethyl-1H-inden-1-yl)dimethyl-, (.+-.)- (9CI) (CA INDEX NAME)

Racemate.



IT 162426-43-9P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

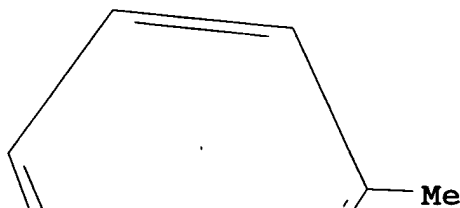
Searched by Barb O'Bryen, STIC 308-4291

(manuf. for olefin polymn. catalysts)

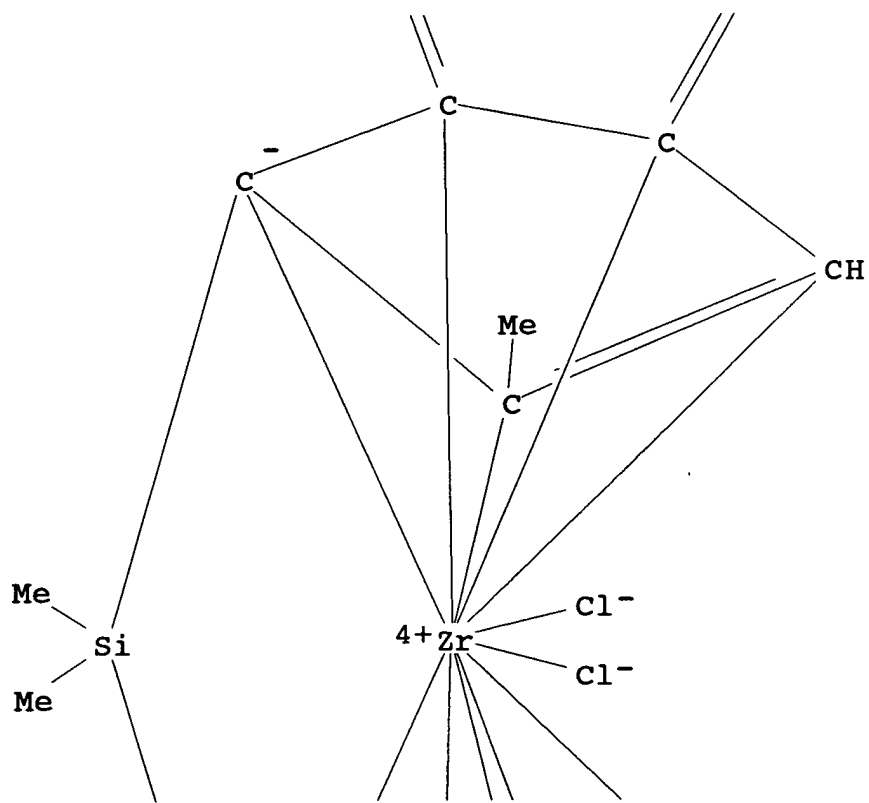
RN 162426-43-9 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-2,4-dimethyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

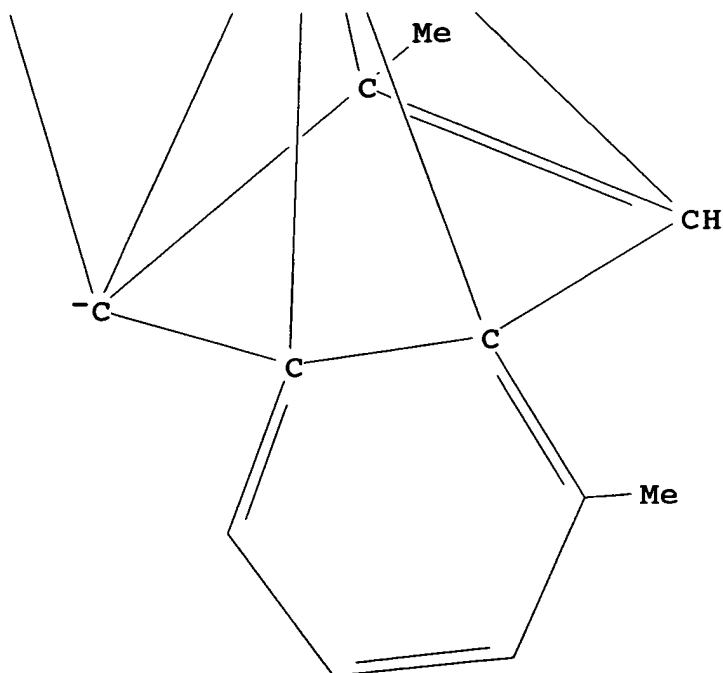
PAGE 1-A

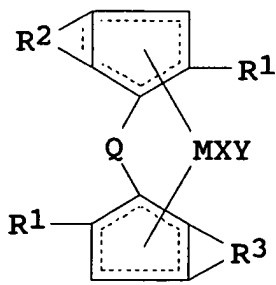


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I

AB .alpha.-Olefins are polymd. with catalysts comprising transition metal compds. I [R1 = H, C1-6 hydrocarbyl, Si-contg. C1-12 hydrocarbyl; R2-3 = C3-30 hydrocarbylene; 1 of R2-3 have condensed ring; M = Group IVB-VIB transition metal; Q = C1-20 hydrocarbylene, (C1-20 hydrocarbyl-contg.) silylene, (C1-20 hydrocarbyl-contg.) germylene; X, Y = H, halo, (O-contg.) C1-20 hydrocarbyl] and another component chosen from Al oxy compds., Lewis acids, and ionic compds. reactive with I. Thus, propylene was prepolymd. with methylalumoxane and dimethylsilylenebis[4-(5,9,9-trimethyltricyclo[6.1.1.0]deca-4,6-dien-3-yl)]zirconium dichloride (II; prepn. given) at 20.degree. and 1 kg/cm2G for 15 min and polymd. at 40.degree. and 7 kg/cm2G for 2 h to give a polymer with catalyst activity 10.1 .times. 104 g-polymer/g-II, no. av. mol. wt. 24.5 .times. 104, polydispersity 2.21, and m.p. 154.5.degree..

IT 161930-23-0P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(catalysts for manuf. of polyolefins)

RN 161930-23-0 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-4,5,6,7-tetrahydro-2,5,5-trimethyl-4,6-methano-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

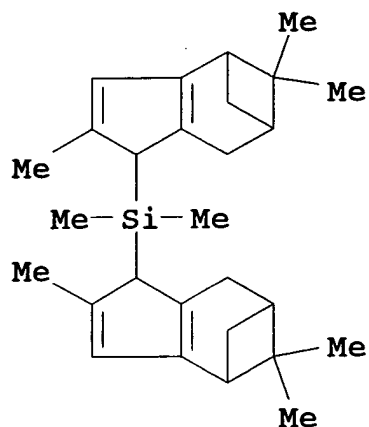
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 161604-89-3P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(prepn. of tricyclodecadienylzirconium compd. as polymn. catalyst)

RN 161604-89-3 CAPLUS

CN Silane, dimethylbis(4,5,6,7-tetrahydro-2,5,5-trimethyl-4,6-methano-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



L49 ANSWER 30 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1994:680888 CAPLUS

DN 121:280888

TI Preparation of catalyst component for use in the polymerization of .alpha.-olefins and process for producing .alpha.-olefin polymers using the same

IN Sugano, Toshihiko; Takahama, Tomohiko

PA Mitsubishi Petrochemical Co., Ltd., Japan

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

PI EP 611772 A2 940824

DS R: DE, FR, GB, IT, NL

AI EP 94-301182 940218

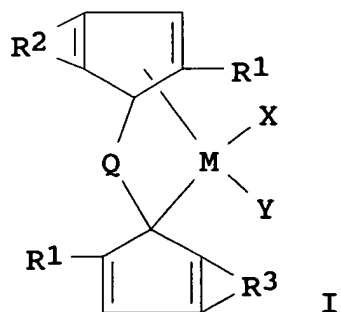
PRAI JP 93-30748 930219

DT Patent

LA English

OS MARPAT 121:280888

GI



AB A catalyst component for use in the polymn. of .alpha.-olefins, comprising a compd. represented by I (R1 = H, C1-6 hydrocarbon group, C1-12 hydrocarbon group contg. silicon; R2, R3 = condensed ring of divalent C3-20 satd. or unsatd. hydrocarbon group, provided that at least one of R2 and R3 forms a ring condensed with the

Searched by Barb O'Bryen, STIC 308-4291

cyclopentadiene which is a seven- to twelve-membered ring having an unsatd. bond inherent in R2 or R3; Q = C1-20 divalent hydrocarbon group, silylene group, silylene group with a C1-20 hydrocarbon group, germylene group, germylene group with a C1-20 hydrocarbon group; X, Y = H, halo, C1-20 hydrocarbon group, C1-20 hydrocarbon group contg. O, N, P; and M = Group IVB-VIB transition metal of Periodic Table). Thus, lithiation of bis(4-methyl-4-hydroazulene)dimethylsilane (prepn. given) with BuLi in THF followed by treatment with ZrCl4 gave title catalyst component, dimethylsilylenebis(4-methyl-4-hydroazulenyl)zirconium dichloride. Prodn. of .alpha.-olefin polymers having a high m.p. and a high mol. wt. in a high yield and a process for producing .alpha.-olefin polymers is made possible upon the use of the catalyst.

IT 115701-70-7P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(prepn. of catalyst component for use in polymn. of .alpha.-olefins and process for producing .alpha.-olefin polymers using same)

RN 115701-70-7 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-4,5,6,7-tetrahydro-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

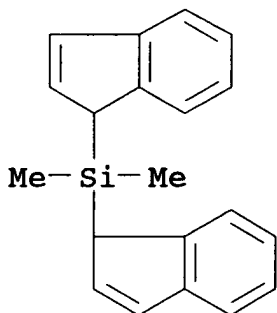
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 18666-26-7

RL: RCT (Reactant)
(prepn. of catalyst component for use in polymn. of .alpha.-olefins and process for producing .alpha.-olefin polymers using same)

RN 18666-26-7 CAPLUS

CN Silane, di-1H-inden-1-ylidimethyl- (9CI) (CA INDEX NAME)



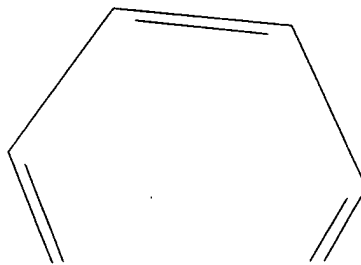
IT 119821-97-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of catalyst component for use in polymn. of .alpha.-olefins and process for producing .alpha.-olefin polymers using same)

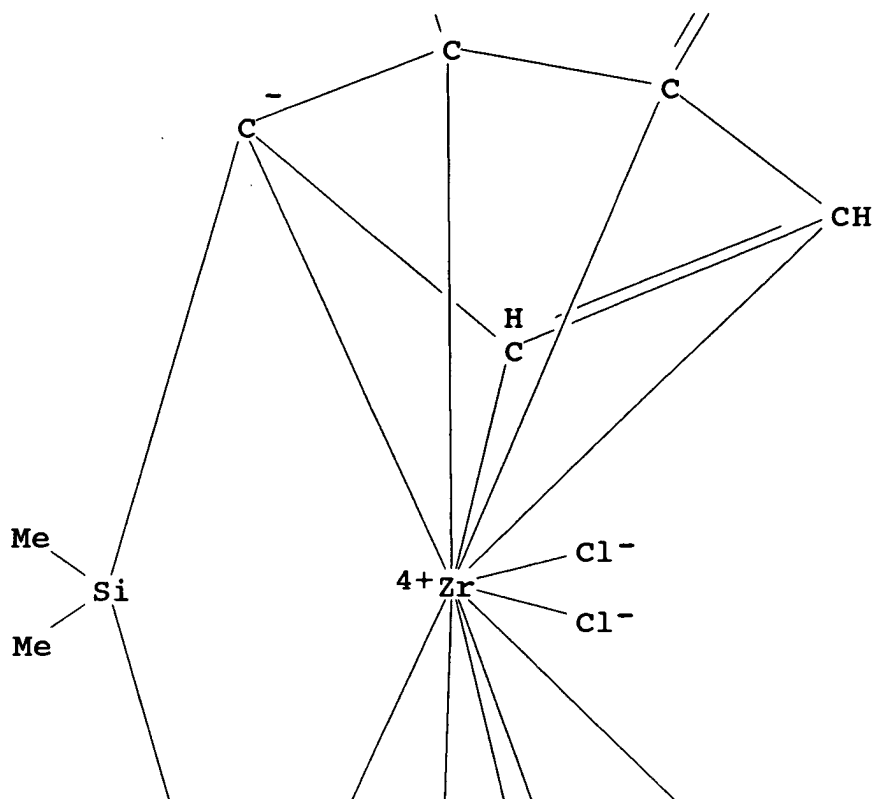
RN 119821-97-5 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

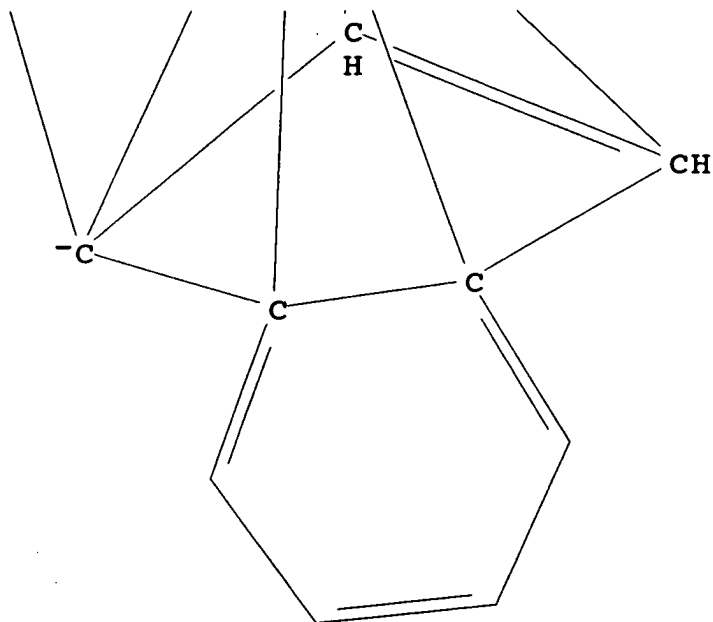
PAGE 1-A



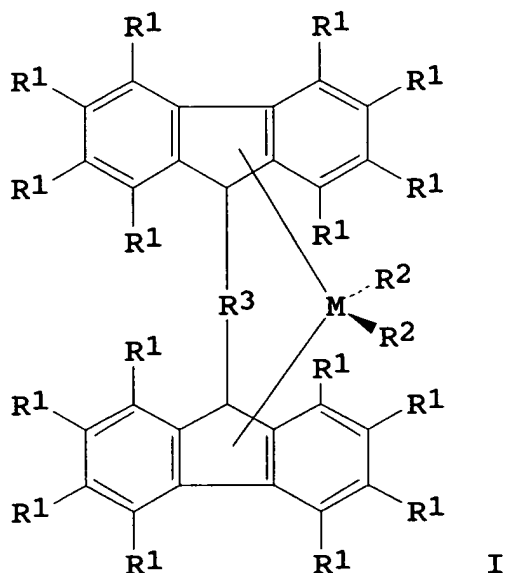
PAGE 2-A



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L49 ANSWER 31 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1994:606244 CAPLUS
DN 121:206244
TI Preparation of fluorenyl rings bridge-linked metallocene compounds
as catalysts for polymerization of olefins
IN Resconi, Luigi; Jones, Robert Lawrence
PA Spherilene S.r.l., Italy
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
PI EP 604908 A2 940706
DS R: AT, BE, DE, ES, FR, GB, GR, IE, IT, NL, PT, SE
AI EP 93-120798 931223
PRAI IT 92-MI2988 921230
DT Patent
LA English
OS MARPAT 121:206244
GI



AB The prepn. of bridged fluorenyl-contg. metallocenes I ($R_1 = \text{H}$, alkyl; $M = \text{Ti, Zr, Hf}$; $R_2 = \text{halo, alkyl}$; bridging group $R_3 = \text{dialkylsilandiyl divalent radical}$), useful as catalyst components for the polymn. of olefins and, esp., for the prepn. of high mol. wt. atactic polypropylene, is described. Thus, lithiation of fluorene with BuLi in THF followed by silylation with Me_2SiCl_2 in THF gave 63% dimethylbis(9-fluorenyl)silane which on lithiation with MeLi in Et_2O followed by treatment with ZrCl_4 gave title compd. I ($R_1 = \text{H}$, $R_2 = \text{Cl}$, $R_3 = \text{Me}_2\text{Si}$, $M = \text{Zr}$).

IT 18769-00-1P

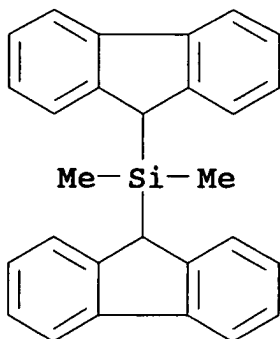
RL: PREP (Preparation); RCT (Reactant)

(prepn. and reaction of, in prepn. of olefin polymn. catalyst)

RN 18769-00-1 CAPLUS

CN Silane, di-9H-fluoren-9-yldimethyl- (9CI) (CA INDEX NAME)

Searched by Barb O'Bryen, STIC 308-4291



IT 148799-45-5P 157958-65-1P 157958-66-2P

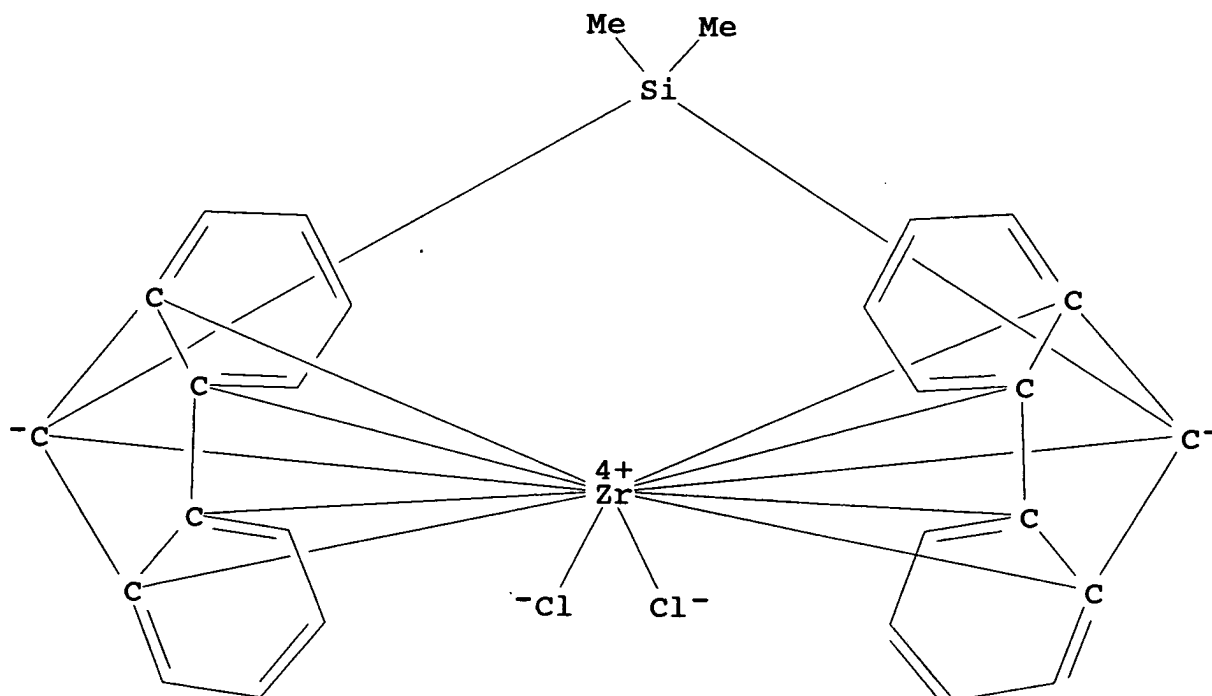
157958-67-3P

RL: PREP (Preparation)

(prepn. of, as olefin polymn. catalyst with alumoxanes)

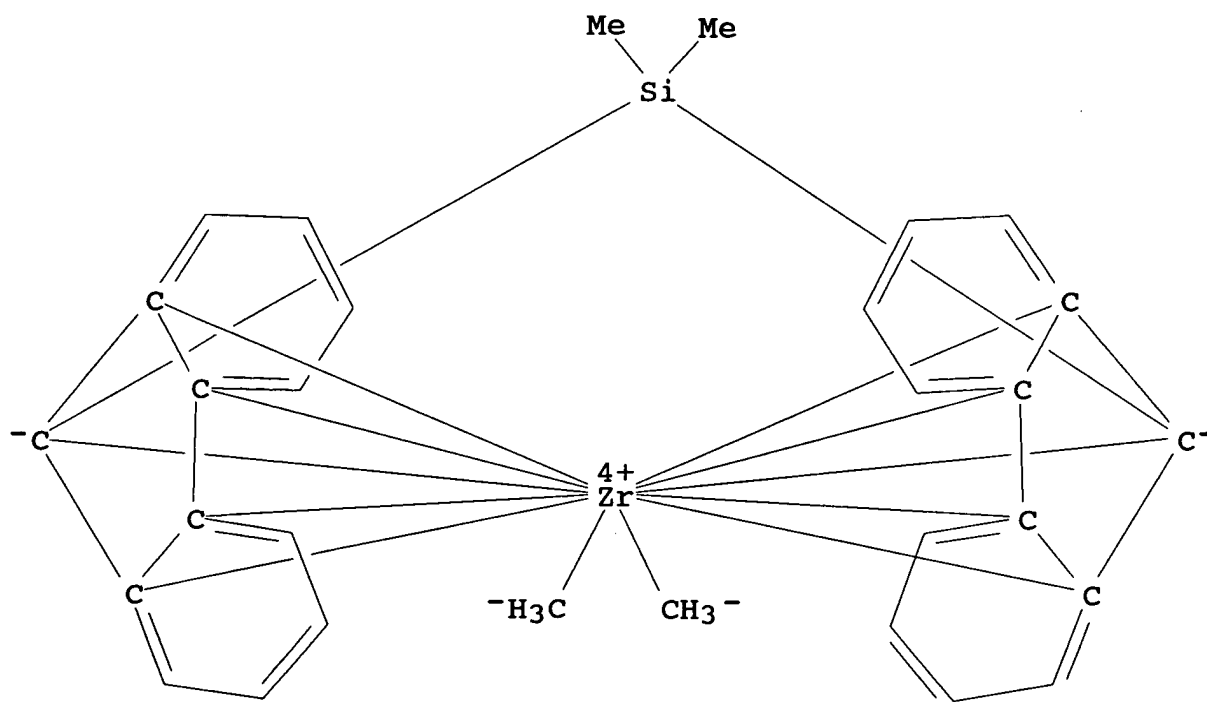
RN 148799-45-5 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(4a,4b,8a,9,9a-.eta.)-9H-fluoren-9-ylidene]]- (9CI) (CA INDEX NAME)



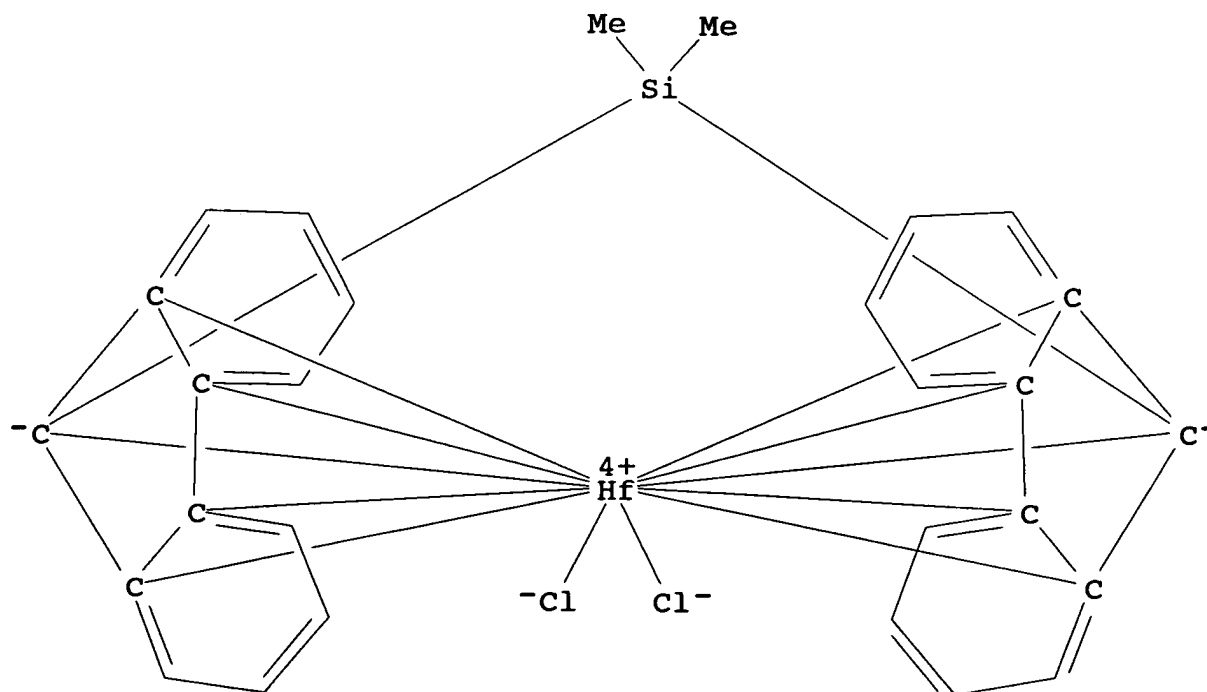
RN 157958-65-1 CAPLUS

CN Zirconium, [(dimethylsilylene)bis[(4a,4b,8a,9,9a-.eta.)-9H-fluoren-9-ylidene]]dimethyl- (9CI) (CA INDEX NAME)



RN 157958-66-2 CAPLUS

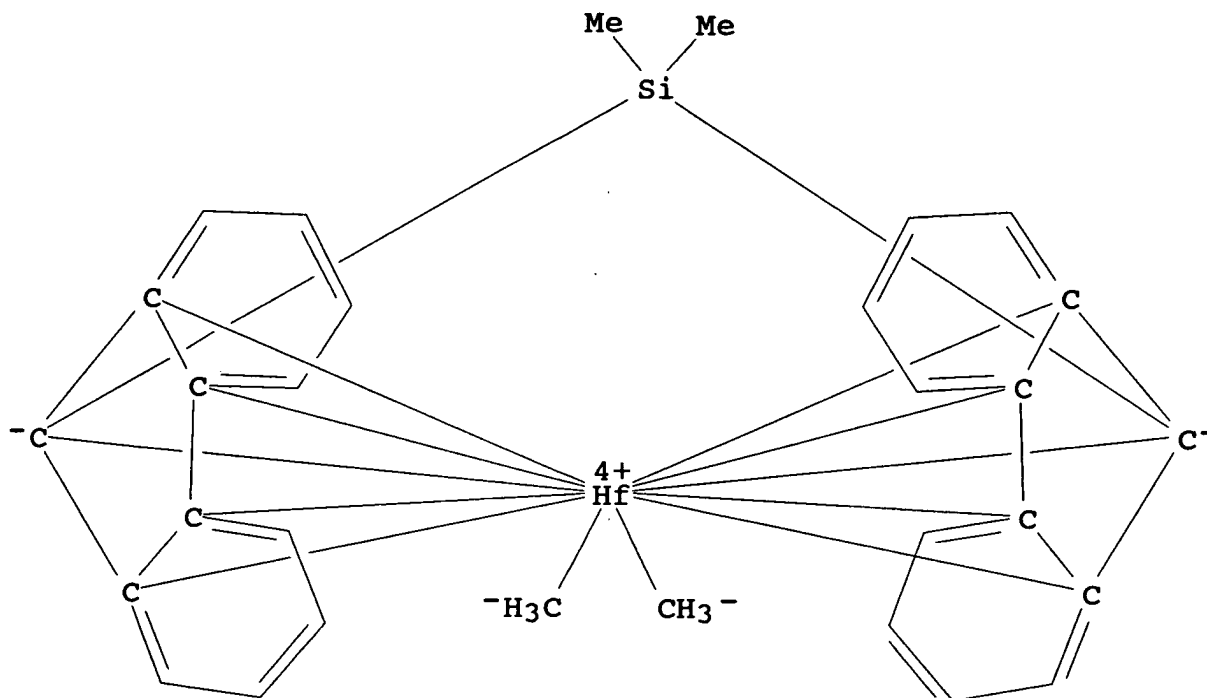
CN Hafnium, dichloro[(dimethylsilylene)bis[(4a,4b,8a,9,9a-eta.)-9H-fluoren-9-ylidene]]- (9CI) (CA INDEX NAME)



RN 157958-67-3 CAPLUS

Searched by Barb O'Bryen, STIC 308-4291

CN Hafnium, [(dimethylsilylene)bis[(4a,4b,8a,9,9a-.eta.)-9H-fluoren-9-ylidene]]dimethyl- (9CI) (CA INDEX NAME)



L49 ANSWER 32 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1994:509891 CAPLUS

DN 121:109891

TI Catalysts and manufacture of propylene random copolymers

IN Futamura, Hitoshi; Sugano, Toshihiko

PA Mitsubishi Petrochemical Co, Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

PI JP 06093042 A2 940405 Heisei

AI JP 92-245068 920914

DT Patent

LA Japanese

OS MARPAT 121:109891

AB Copolymers contg. C₃H₆ 70-99.9, .alpha.-olefins 0-15, and .alpha.,.omega.-nonconjugated dienes 0.1-15 mol% and having ¹³C-NMR triad [mm] fraction >0.7 are prepd. with catalysts contg. transition metal compds. having ligands of conjugated 5-membered rings and alumoxanes. Thus, 1.16:98.84 (molar) 1,9-decadiene-propylene copolymer was prepd. in the presence of ethylenebis(indenyl)zirconium dichloride and methylalumoxane.

IT 119821-97-5P

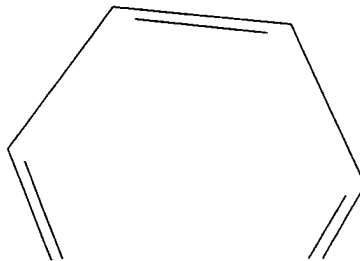
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation) (manuf. and hydrogenation of)

RN 119821-97-5 CAPLUS

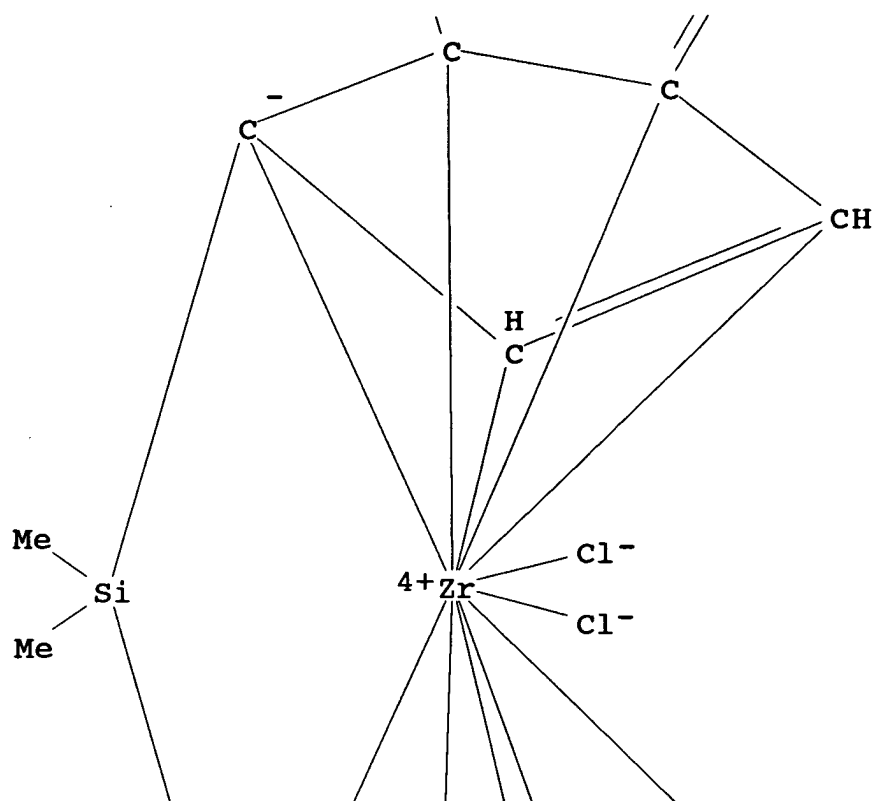
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

Searched by Barb O'Bryen, STIC 308-4291

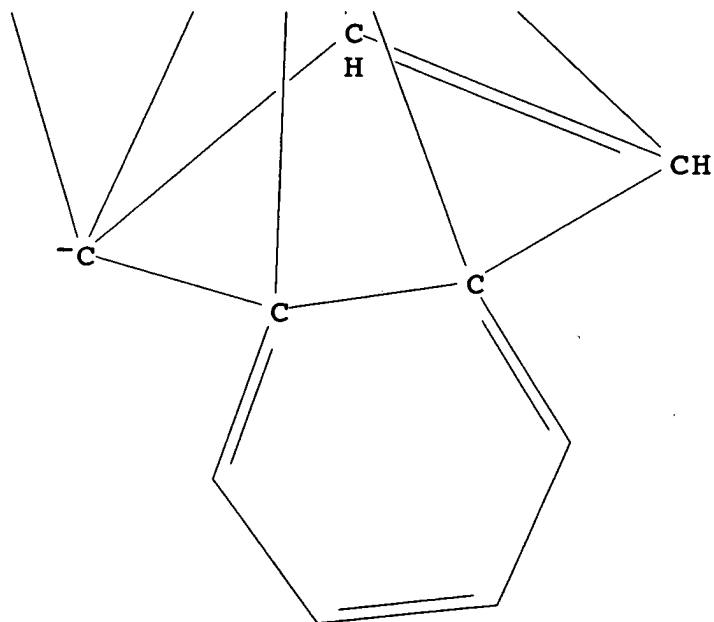
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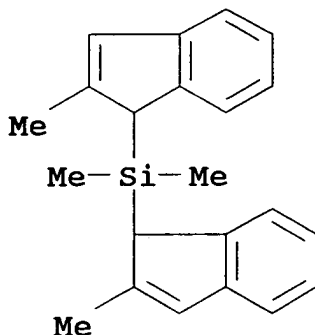
IT 143232-13-7P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation)

(manuf. and reaction of, with zirconium tetrachloride)

RN 143232-13-7 CAPLUS

CN Silane, dimethylbis(2-methyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



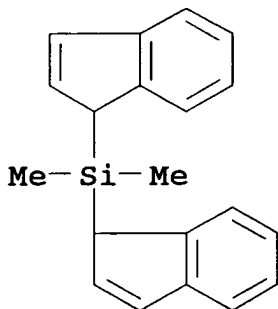
IT 18666-26-7

RL: RCT (Reactant)

(reaction of, with zirconium tetrachloride)

RN 18666-26-7 CAPLUS

CN Silane, di-1H-inden-1-yldimethyl- (9CI) (CA INDEX NAME)



L49 ANSWER 33 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1994:457709 CAPLUS

DN 121:57709

TI Preparation of metallocenes

IN Diefenbach, Steven P.; Ao, Meng Sheng; Power, John M.; Strickler, Jamie R.

PA Ethyl Corp., USA

SO U.S., 5 pp.

CODEN: USXXAM

PI US 5302733 A 940412

AI US 92-860339 920330

DT Patent

LA English

OS CASREACT 121:57709

Searched by Barb O'Bryen, STIC 308-4291

AB A racemic mixt. of a chiral, silicon bridged transition metal metallocene, useful as catalyst for olefin polymn., which is substantially free of meso isomer, is pptd. directly from a reaction mixt. as it is formed by reacting an org. solvent soln. of an alkali metal salt of a silicon bridged ligand with a transition metal tetrahalide-ether complex. Thus, lithiation of $\text{Me}_2\text{Si}(\text{indenyl})_2$ (prepn. given) with BuLi in hexanes/Et₂O gave 67% $\text{Li}_2\text{Me}_2\text{Si}(\text{indenide})_2 \cdot 2\text{OEt}_2$ which on treatment with $\text{ZrCl}_4(\text{THF})_2$ (prepn. given) in THF gave >99% rac-[1,1'-dimethylsilanylenebis(indenyl)]zirconium dichloride in 47.3% yield.

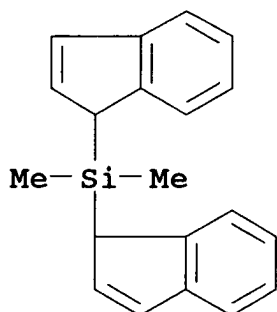
IT 18666-26-7P 124684-47-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and reaction of, in prepn. of silicon bridged zirconium metallocene)

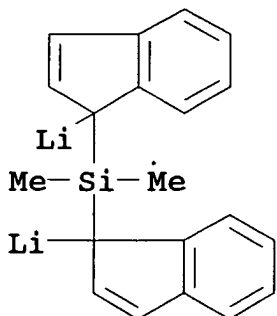
RN 18666-26-7 CAPLUS

CN Silane, di-1H-inden-1-ylidimethyl- (9CI) (CA INDEX NAME)



RN 124684-47-5 CAPLUS

CN Lithium, [μ -[1,1'-(dimethylsilylene)di-1H-inden-1-ylidene]]di- (9CI) (CA INDEX NAME)



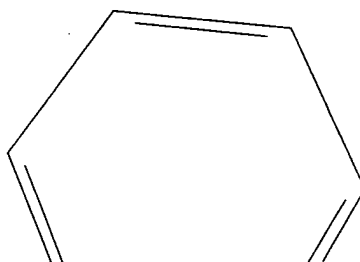
IT 121009-93-6P 147059-57-2P

RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)

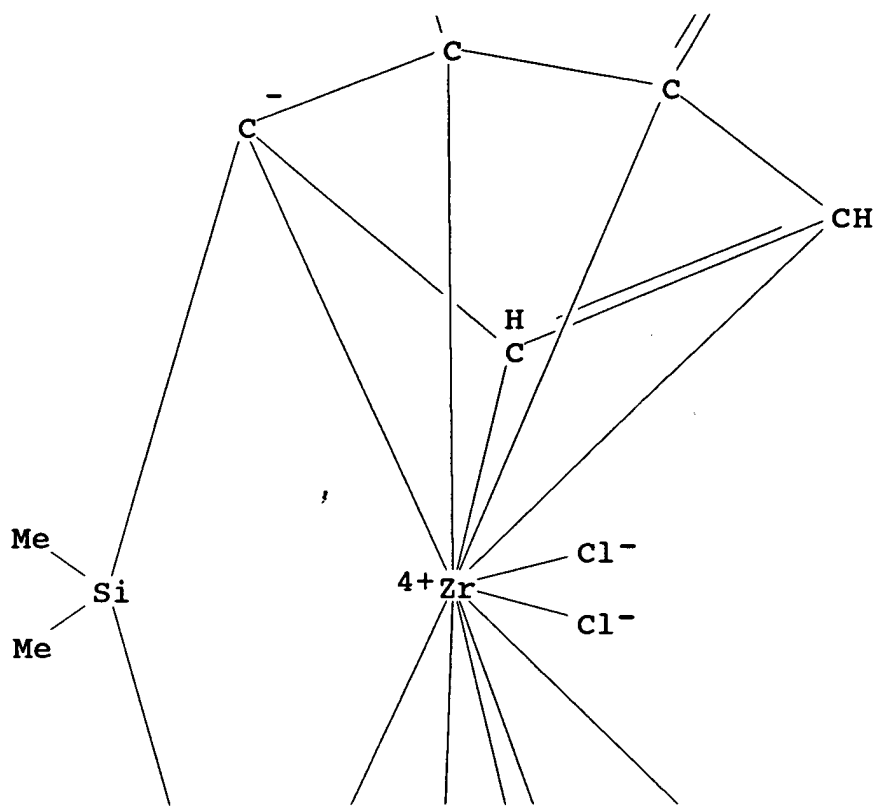
RN 121009-93-6 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a- η)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

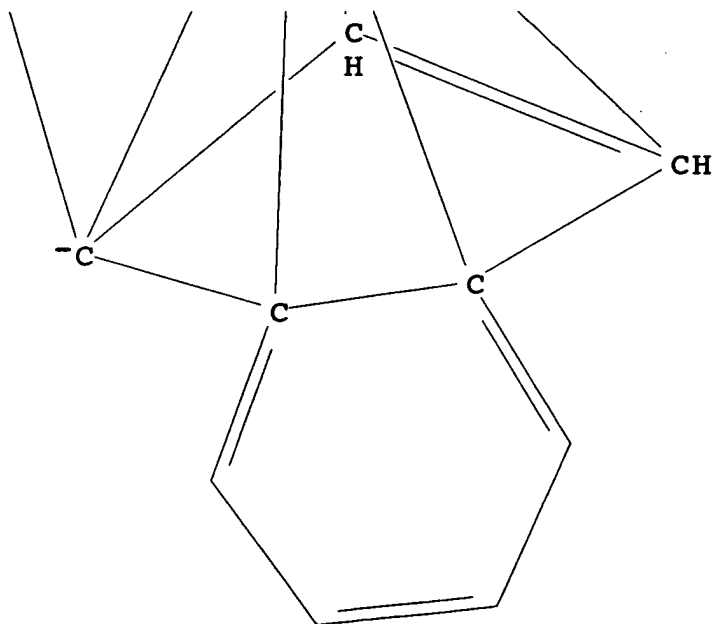
PAGE 1-A



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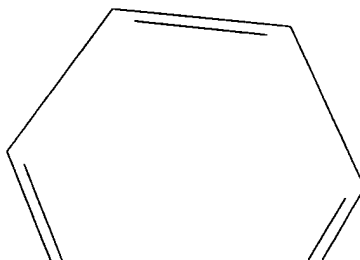


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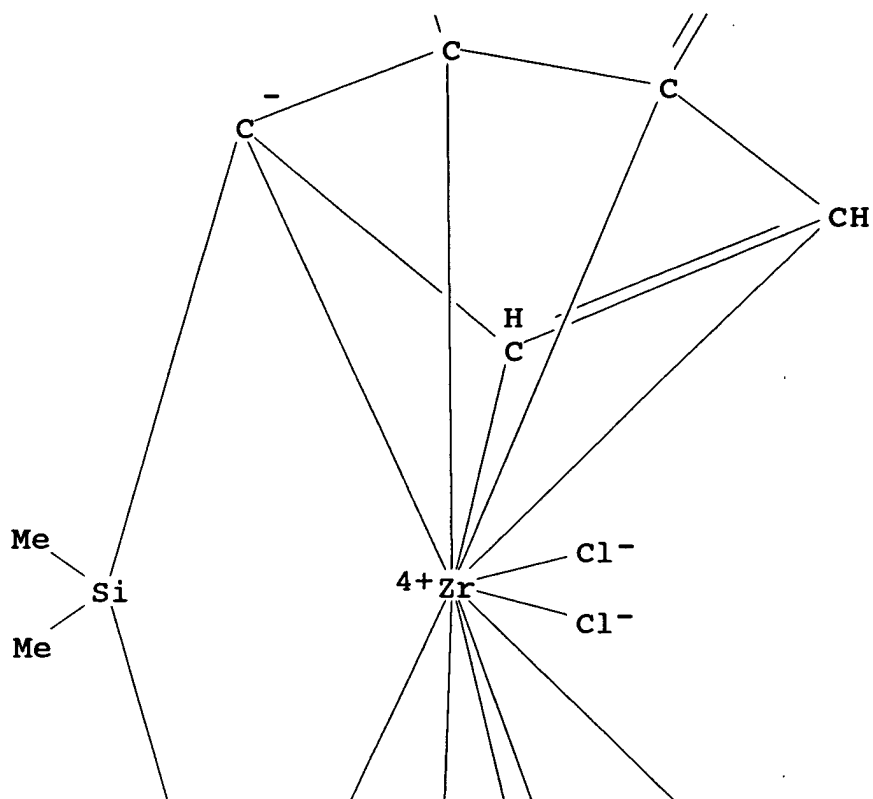


RN 147059-57-2 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

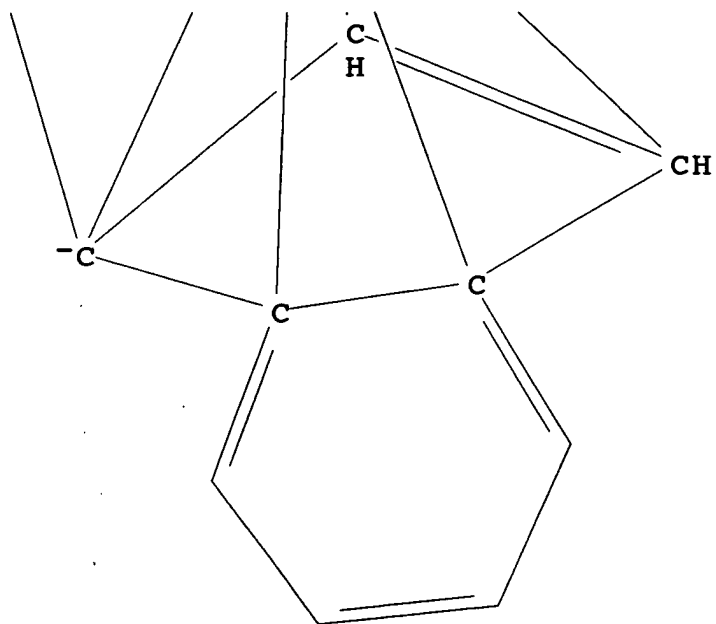
PAGE 1-A



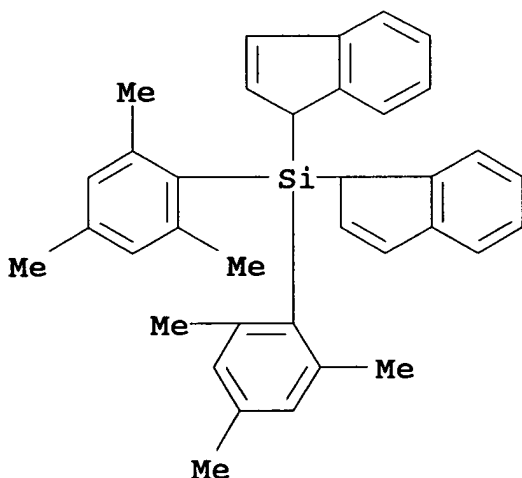
PAGE 2-A



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L49 ANSWER 34 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1994:410185 CAPLUS
DN 121:10185
TI Catalysts for the preparation of polyolefin waxes
IN Herrmann, Hans Friedrich; Boehm, Ludwig; Voigt, Hartmut; Spaleck, Walter; Hohner, Gerd
PA Hoechst A.-G., Germany
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
PI EP 571882 A2 931201
DS R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE
AI EP 93-108106 930518
PRAI DE 92-4217378 920526
DT Patent
LA German
OS MARPAT 121:10185
AB Solid waxes which are easily sepd. from suspending media are prep'd. by polymg. suspensions of (di)olefins in the presence of metallocene derivs. of Group IVB, VB, or VIB metals of specified structure and cocatalysts at -40.degree. to 100.degree. and 0.5-120 bar. Stirring 7 mg bis(methylcyclopentadienyl)zirconium dichloride (preactivated with Me aluminoxane) and 2 mL PhMe soln. of Me aluminoxane in 4 kg propane with C₂H₄ at 70.degree./33.5 bar with addn. of 4 g H (in 60 portions) for 1 h gave a wax with catalyst activity 32.6 kg/mmol Zr, viscosity no. 33 mL/g, melt viscosity 1.32 Pa-s at 140.degree., m.p. 130.degree., and heat of fusion 280 J/g.
IT 155434-77-8P
RL: PREP (Preparation); RCT (Reactant)
(prepn. and reaction of, with zirconium tetrachloride)
RN 155434-77-8 CAPLUS
CN Silane, di-1H-inden-1-ylbis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



IT 121009-93-6P
RL: PREP (Preparation)
(prepn. of, as catalyst for suspension polymn. of olefins to

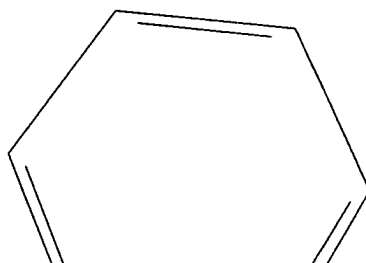
Searched by Barb O'Bryen, STIC 308-4291

waxes)

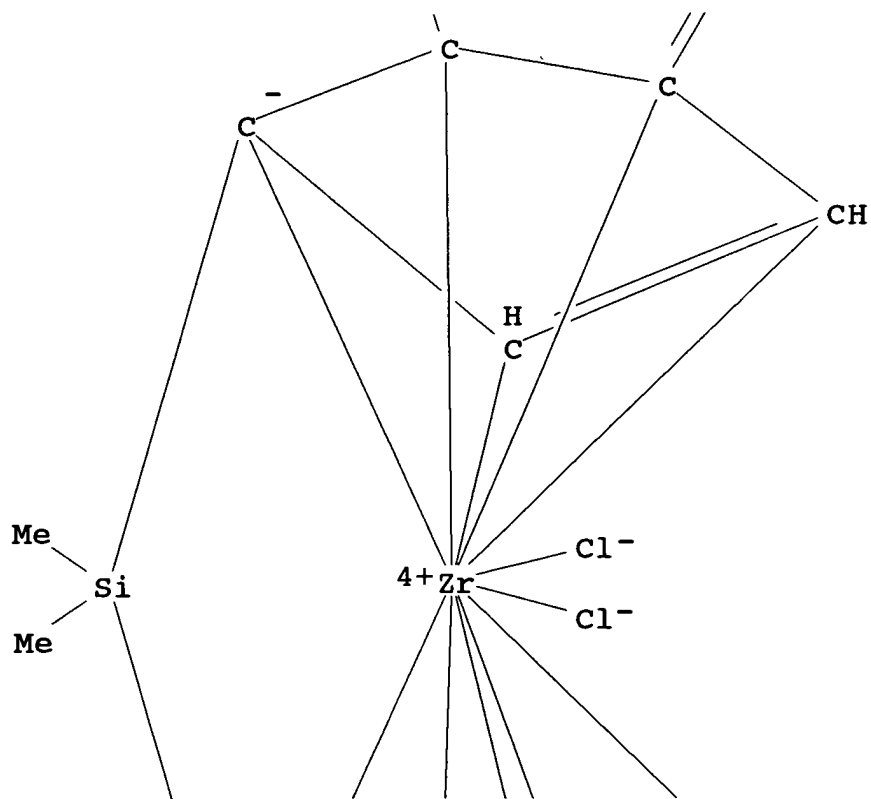
RN 121009-93-6 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

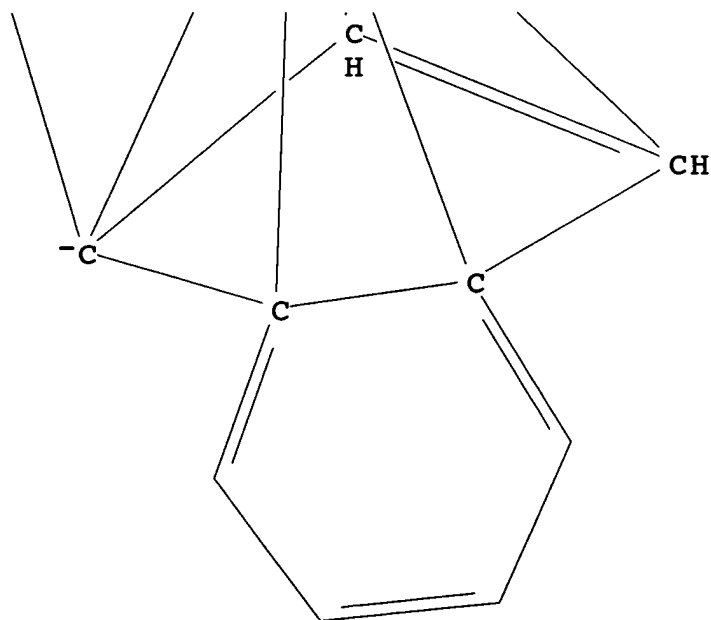
PAGE 1-A



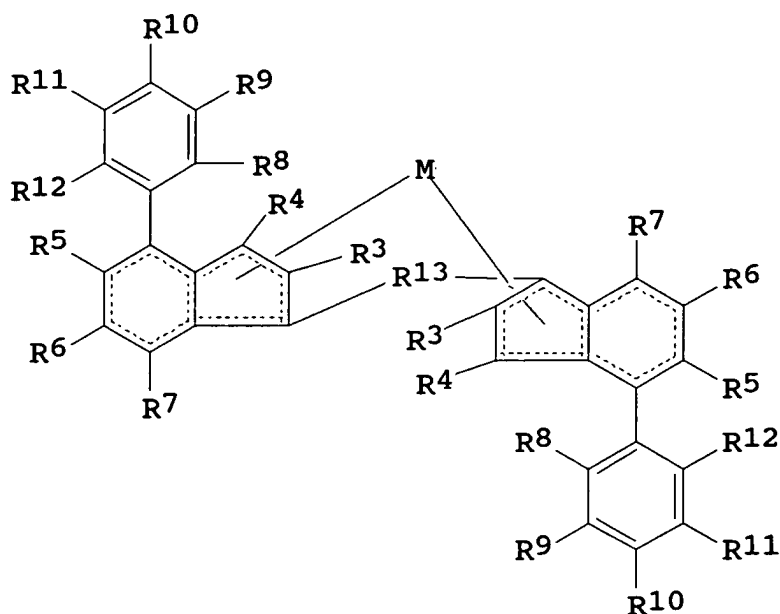
PAGE 2-A



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L49 ANSWER 35 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1994:298986 CAPLUS
DN 120:298986
TI Preparation and olefin polymerization catalytic activity of aryl
substituted indenyl metallocenes
IN Kueber, Frank; Bachmann, Bernd; Spaleck, Walter; Winter, Andreas;
Rohrmann, Juergen
PA Hoechst A.-G., Germany
SO Eur. Pat. Appl., 33 pp.
CODEN: EPXXDW
PI EP 576970 A1 940105
DS R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE
AI EP 93-109966 930622
PRAI DE 92-4221244 920627
DT Patent
LA English
OS CASREACT 120:298986; MARPAT 120:298986
GI



AB Prepn. of aryl substituted metallocenes I (M = Zr, Hf; R1, R2 = halo, alkyl; R3 = alkyl; R4-R12 = H, alkyl; R13 = substituted alkylene, hetero atom), useful in catalytic polymn. of olefins with aluminoxanes, is described. Thus, lithiation of dimethylbis(2-methyl-4-phenylindenyl)silane (prepn. given; in 4 steps from 2-phenylbenzyl bromide) with BuLi in hexane and PhMe followed by treatment with ZrCl₄ gave 33% racemic title compd. I (M = Zr, R1 = R2 = Cl, R3 = Me, R4-R12 = H, R13 = SiMe₂) II. Polymn. of propylene contg. racemic II and methylaluminoxane is described.

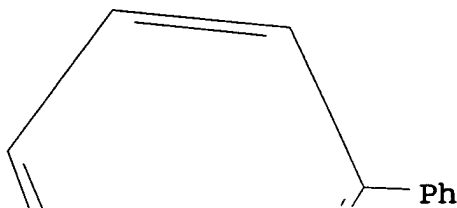
IT 154827-36-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of racemic, in prepn. of aryl substituted

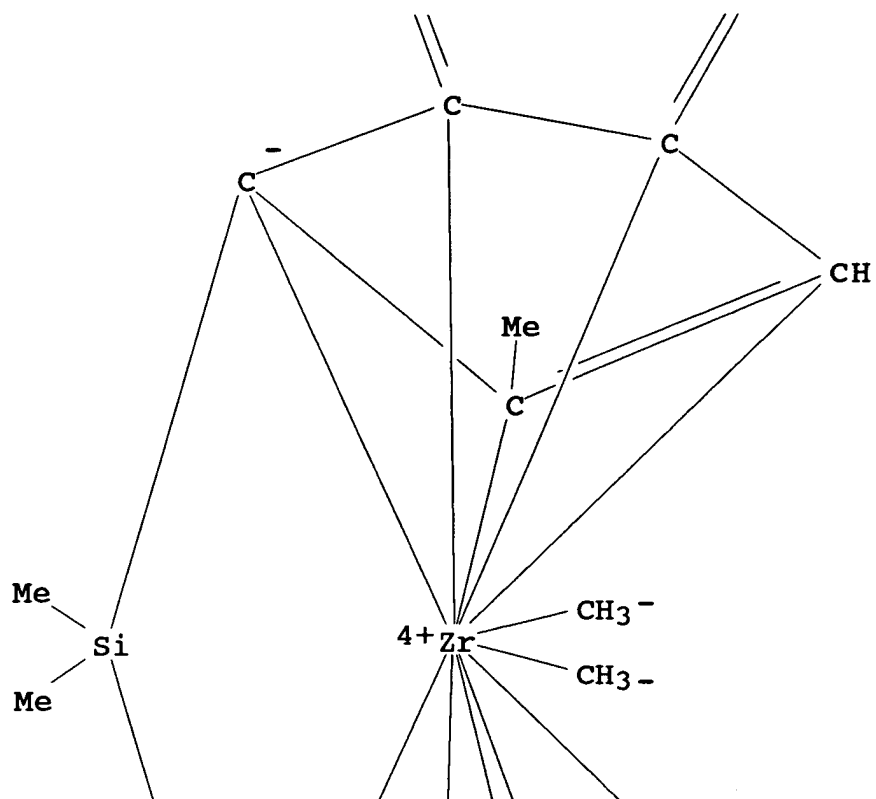
Searched by Barb O'Bryen, STIC 308-4291

indeny1 metallocene polymn. catalyst)
RN 154827-36-8 CAPLUS
CN Zirconium, [(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-2-methyl-4-phenyl-1H-inden-1-ylidene]]dimethyl-, stereoisomer (9CI) (CA INDEX NAME)

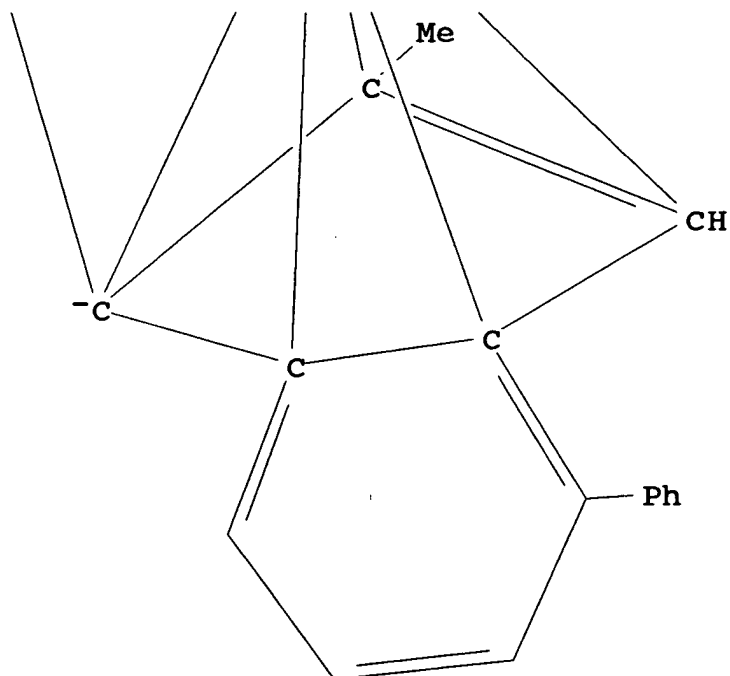
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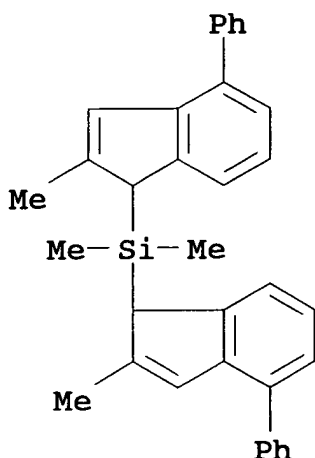


IT 153733-76-7P 153733-77-8P 153733-78-9P

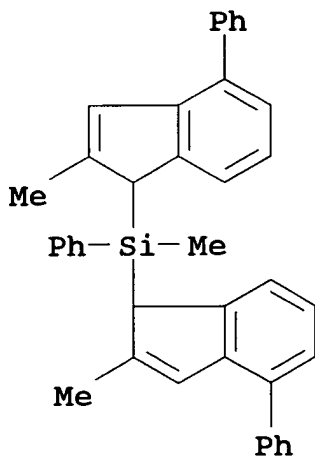
153733-83-6P 154380-64-0P 154380-73-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation)(prepn. and reaction of, in prepn. of aryl substituted indenyl
metallocene polymn. catalyst)

RN 153733-76-7 CAPLUS

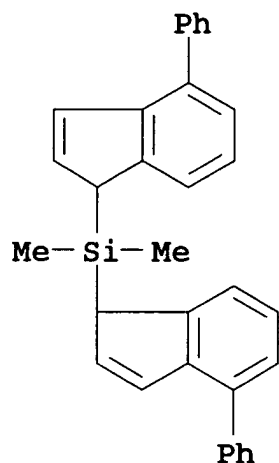
CN Silane, dimethylbis(2-methyl-4-phenyl-1H-inden-1-yl)- (9CI) (CA
INDEX NAME)

RN 153733-77-8 CAPLUS

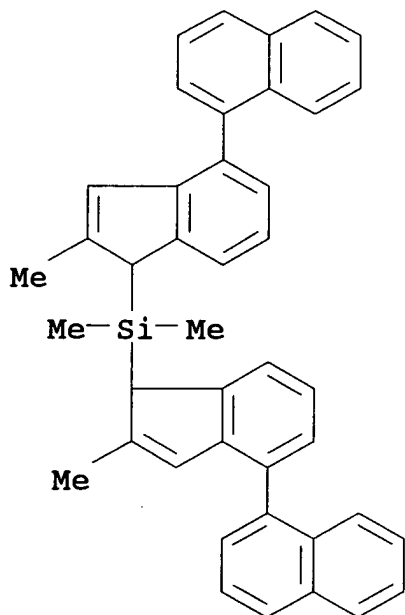
CN Silane, methylbis(2-methyl-4-phenyl-1H-inden-1-yl)phenyl- (9CI) (CA
INDEX NAME)

RN 153733-78-9 CAPLUS

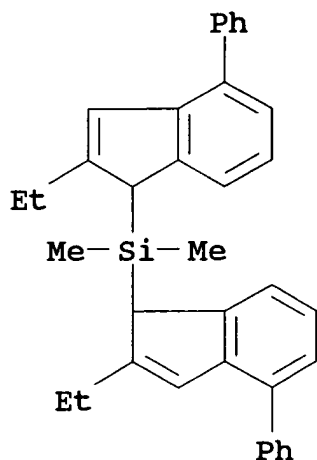
CN Silane, dimethylbis(4-phenyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



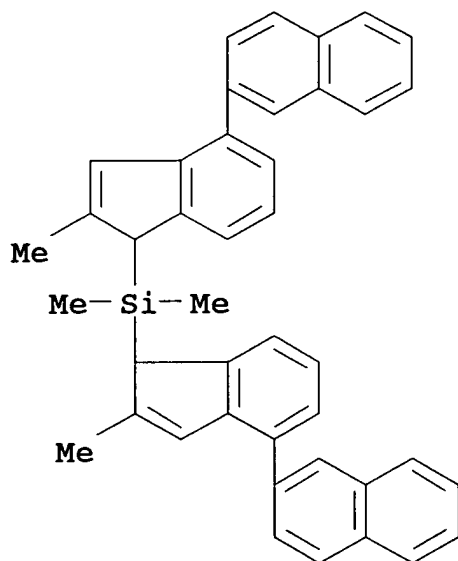
RN 153733-83-6 CAPLUS
CN Silane, dimethylbis[2-methyl-4-(1-naphthalenyl)-1H-inden-1-yl]-
(9CI) (CA INDEX NAME)



RN 154380-64-0 CAPLUS
CN Silane, bis(2-ethyl-4-phenyl-1H-inden-1-yl)dimethyl- (9CI) (CA
INDEX NAME)



RN 154380-73-1 CAPLUS
CN Silane, dimethylbis[2-methyl-4-(2-naphthalenyl)-1H-inden-1-yl]-
(9CI) (CA INDEX NAME)

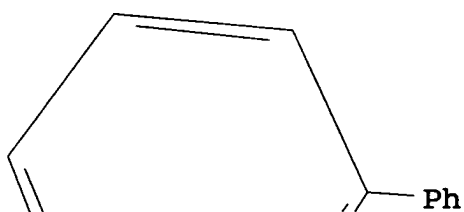


IT 153882-67-8P 153882-68-9P 153882-69-0P
153882-70-3P 154827-33-5P 154827-34-6P

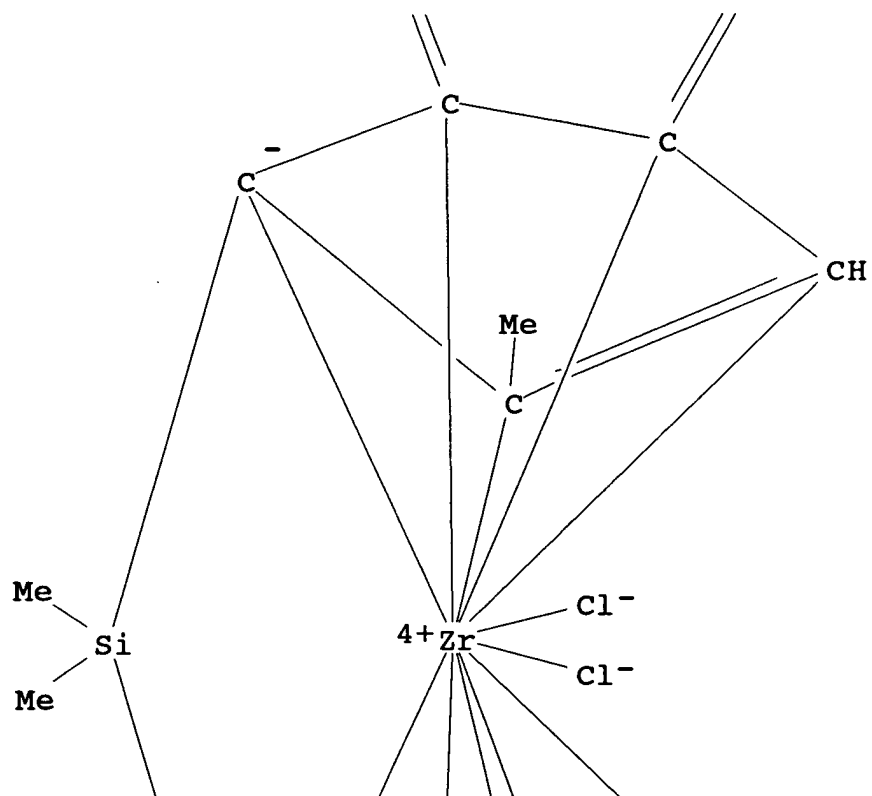
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of racemic, as polymn. catalyst)

RN 153882-67-8 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-2-methyl-4-phenyl-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

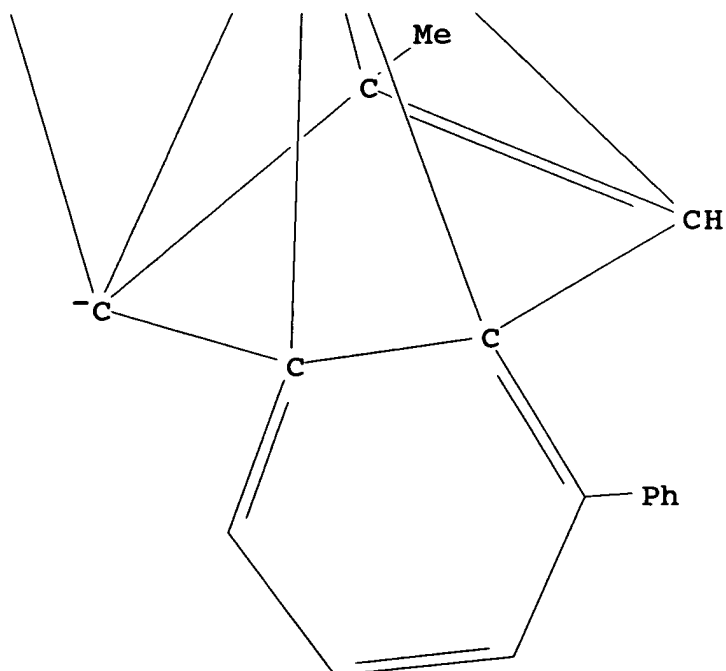
PAGE 1-A



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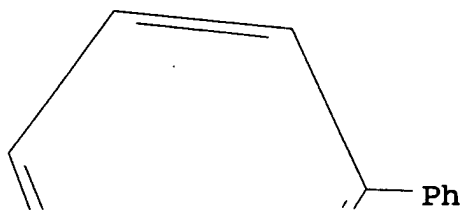


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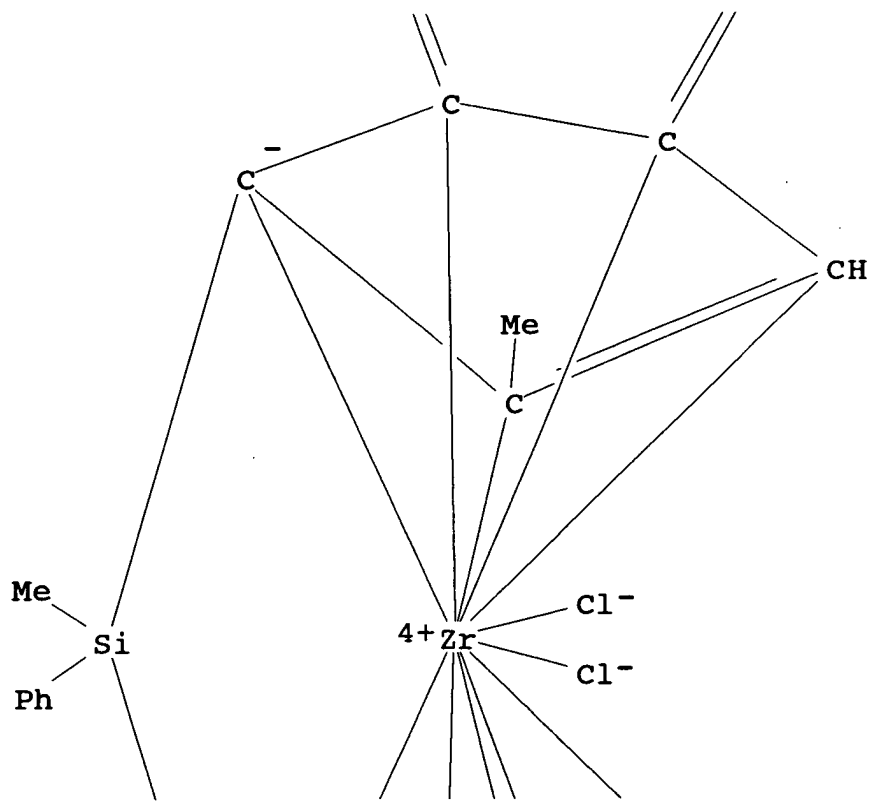


RN 153882-68-9 CAPLUS
CN Zirconium, dichloro[(methylphenylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-4-phenyl-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

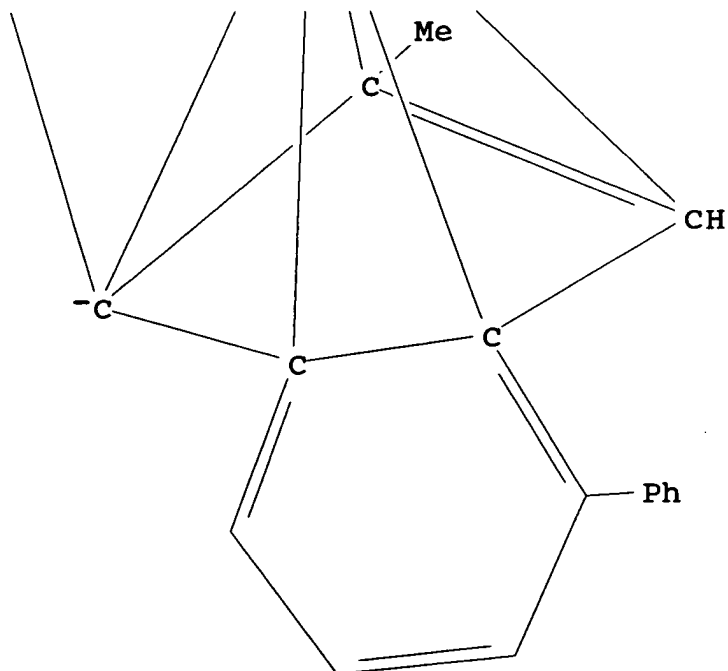
PAGE 1-A



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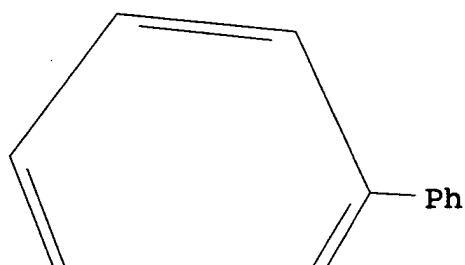


PAGE 3-A

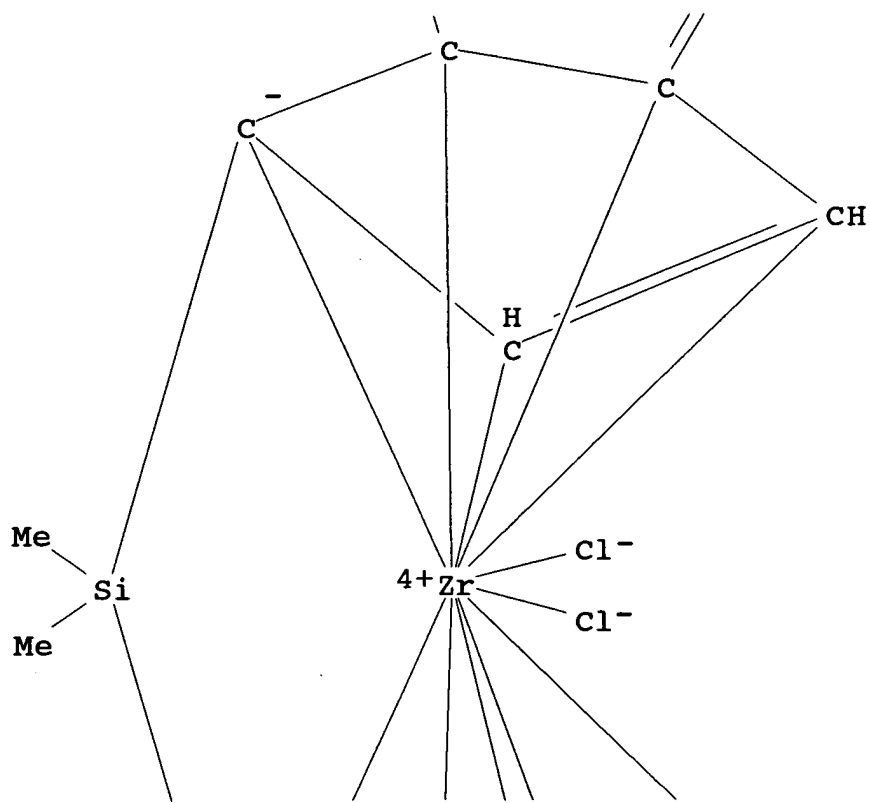


RN 153882-69-0 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-4-phenyl-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

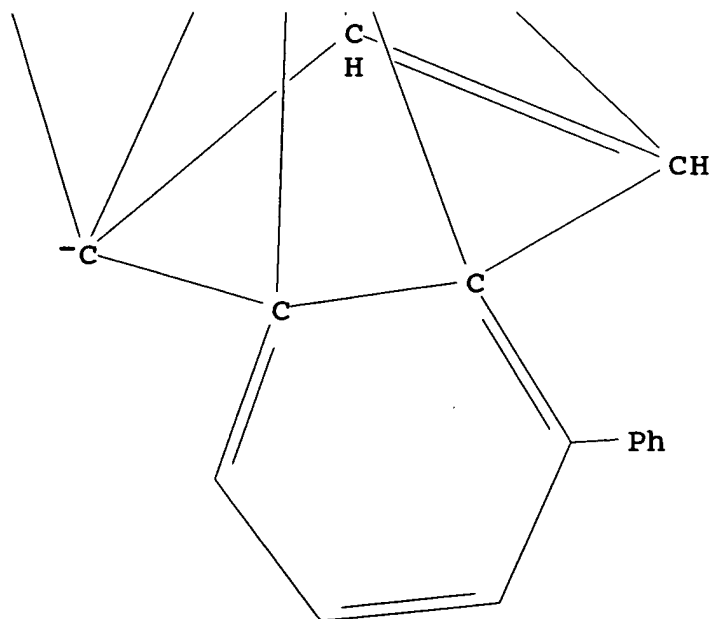
PAGE 1-A



PAGE 2-A



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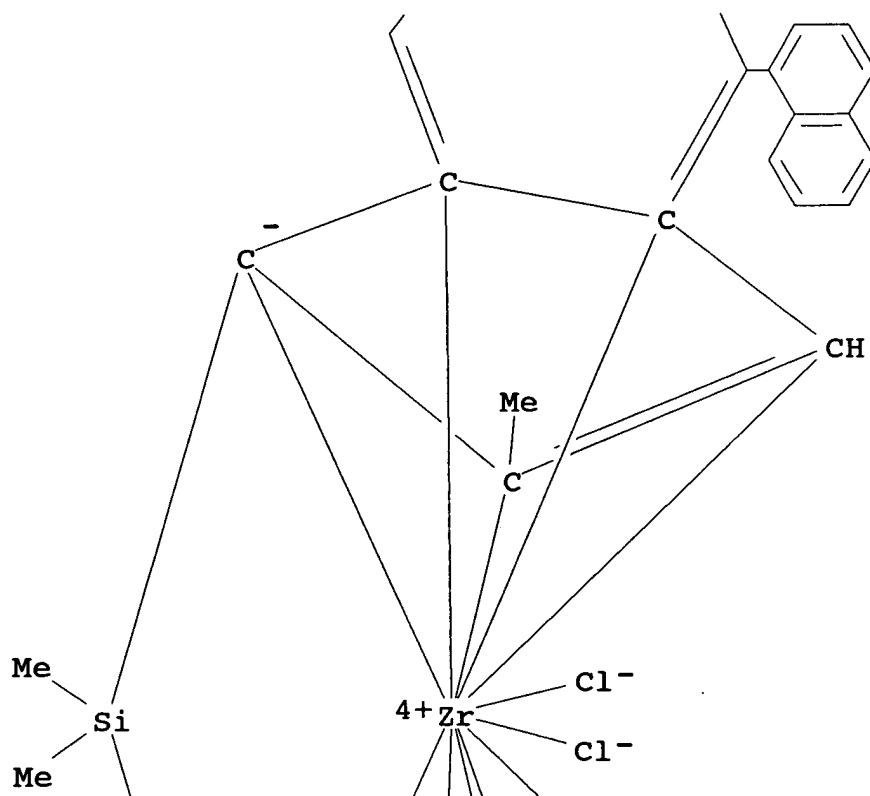
RN 153882-70-3 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-2-methyl-4-(1-naphthalenyl)-1H-inden-1-ylidene]]-, stereoisomer (9CI)
(CA INDEX NAME)

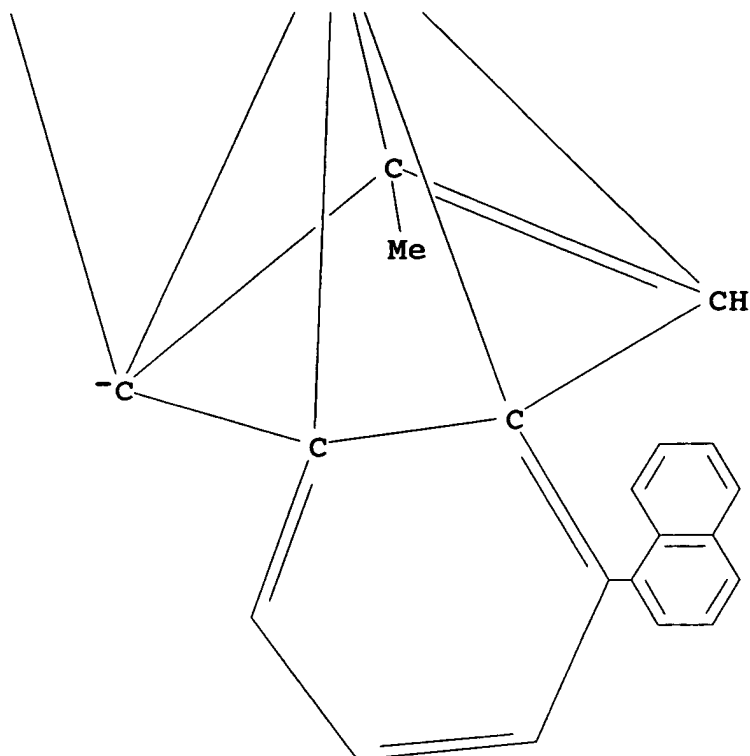
PAGE 1-A



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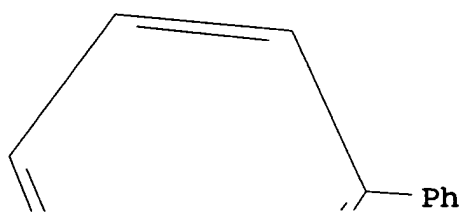


PAGE 3-A

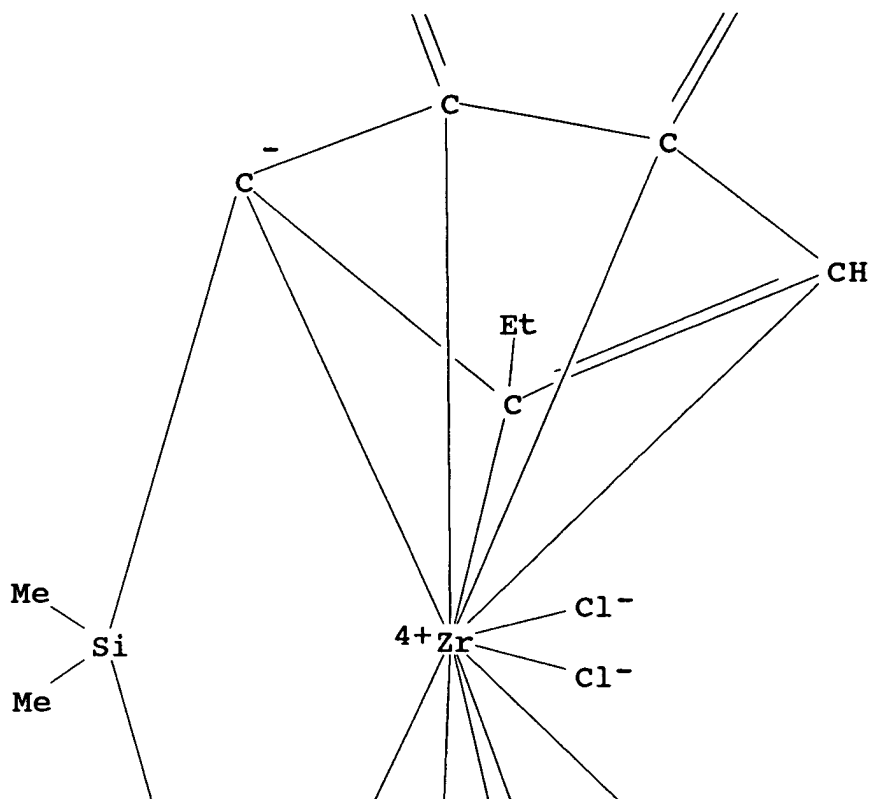


RN 154827-33-5 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-2-ethyl-4-phenyl-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

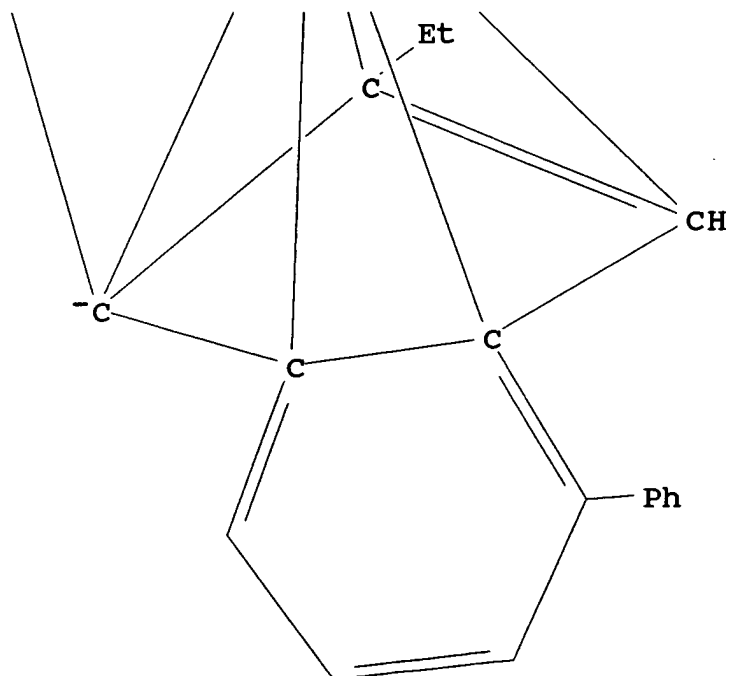
PAGE 1-A



PAGE 2-A

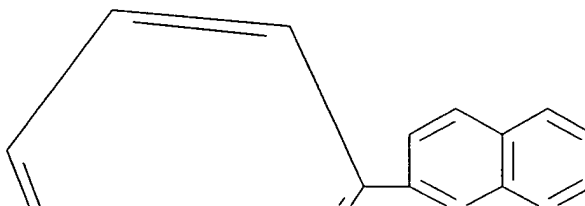


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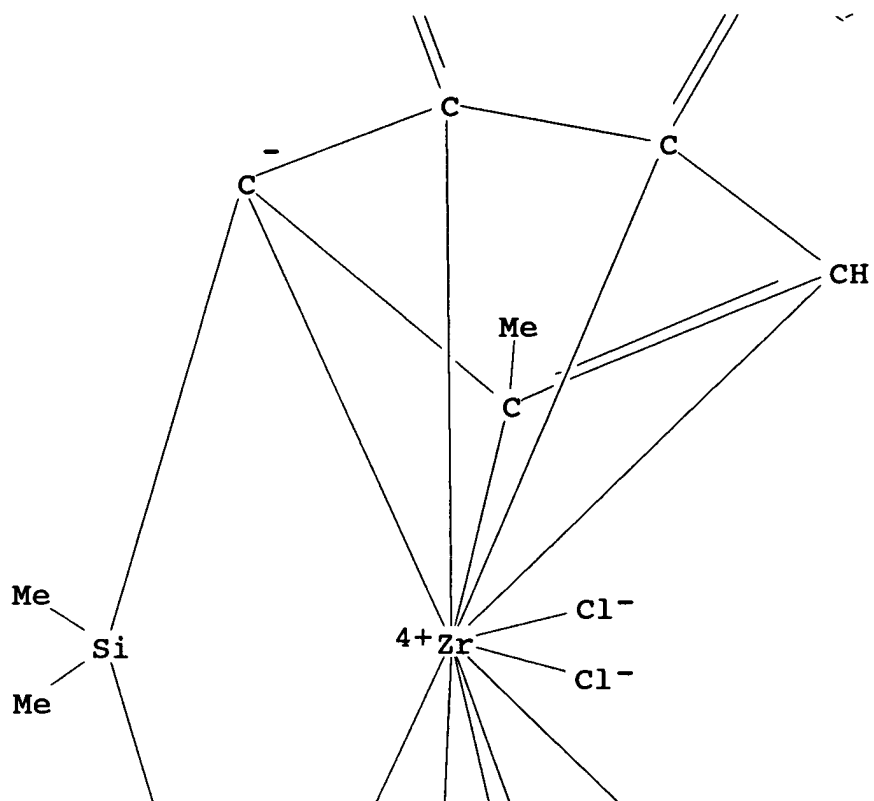


RN 154827-34-6 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-4-(2-naphthalenyl)-1H-inden-1-ylidene]]-, stereoisomer (9CI)
(CA INDEX NAME)

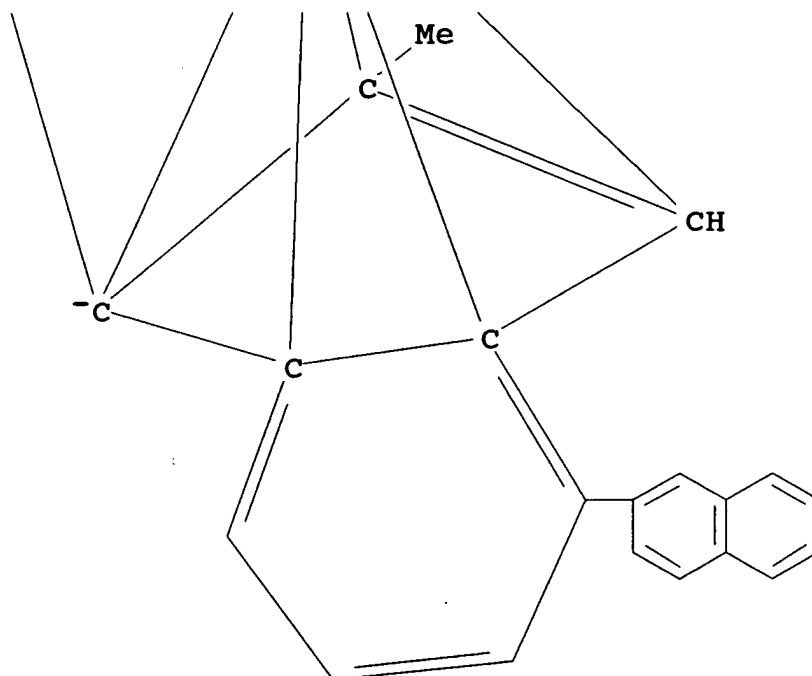
PAGE 1-A



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IT 154827-38-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as polymn. catalyst)

RN 154827-38-0 CAPLUS

CN Zirconium(1+), [(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-4-phenyl-1H-inden-1-ylidene]]methyl-, tetraphenylborate(1-) (9CI) (CA INDEX NAME)

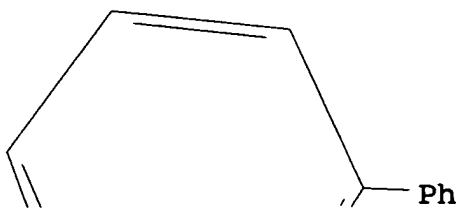
CM 1

CRN 154827-37-9

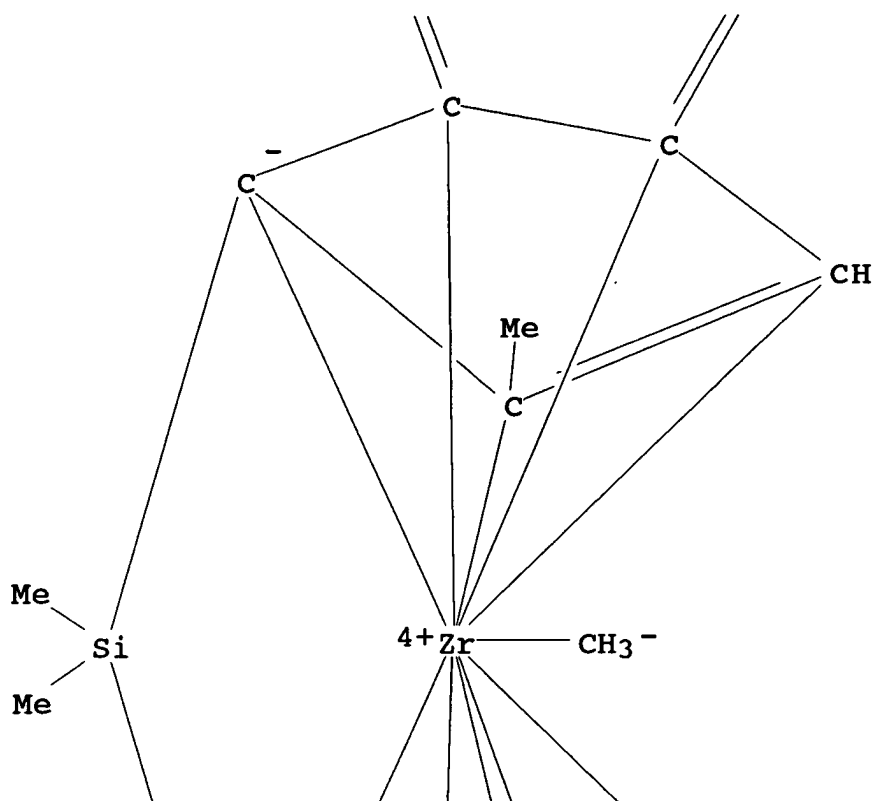
CMF C35 H33 Si Zr

CCI CCS

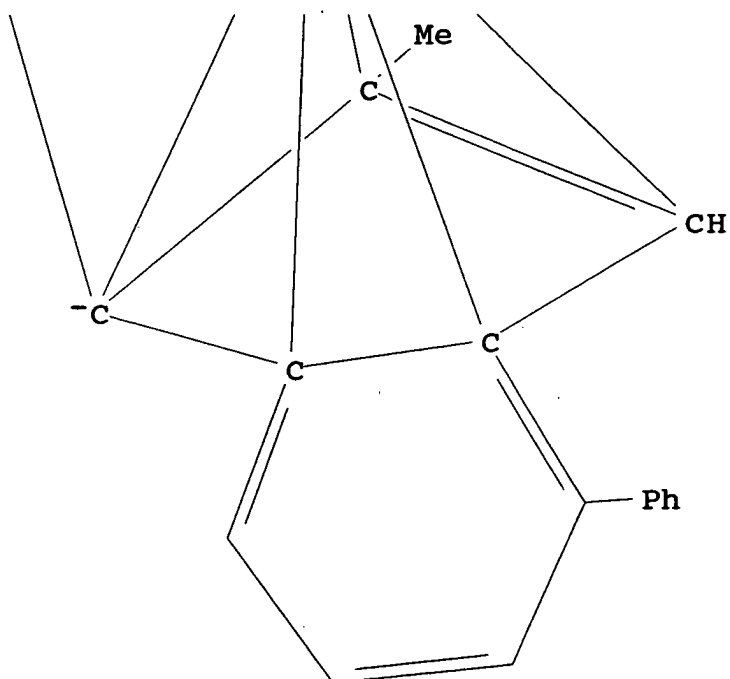
PAGE 1-A



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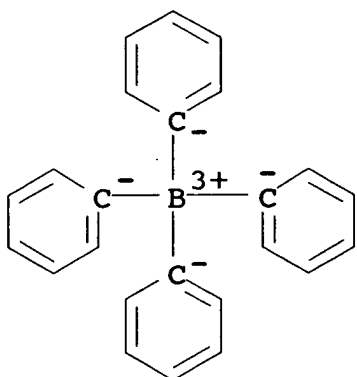


CM 2

CRN 4358-26-3

CMF C24 H20 B

CCI CCS



L49 ANSWER 36 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1994:271446 CAPLUS

DN 120:271446

TI Process for producing .alpha.-olefin polymers

IN Fujita, Takashi; Sugano, Toshihiko; Uchino, Hideshi

PA Mitsubishi Petrochemical Co. Ltd., Japan

SO Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

PI EP 566349 A2 931020

DS R: BE, DE, FR, GB, IT, NL

AI EP 93-302836 930413

PRAI JP 92-95574 920415

DT Patent

LA English

OS MARPAT 120:271446

AB The title polymers are prepd. using group IVB-VIB metal compd.-aluminosiloxane catalysts prepolymd. with .alpha.-olefins. A mixt. of Me aluminosiloxane and ethylenebis(indenyl)hafnium dichloride in heptane was prepolymd. with C3H6 and then used to prep. polypropylene.

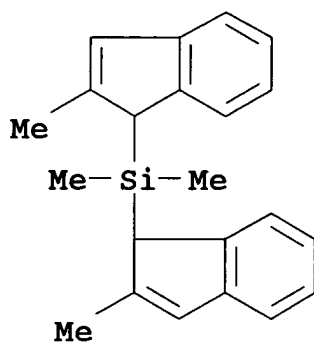
IT 143232-13-7P

RL: PREP (Preparation); RCT (Reactant)

(prepn. and reaction of, with zirconium tetrachloride, for polymn. catalysts)

RN 143232-13-7 CAPLUS

CN Silane, dimethylbis(2-methyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



IT 149342-08-5P

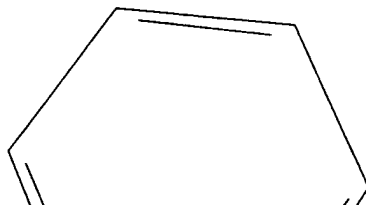
RL: PREP (Preparation)

(prepn. of, as catalysts, for polymn. of .alpha.-olefins)

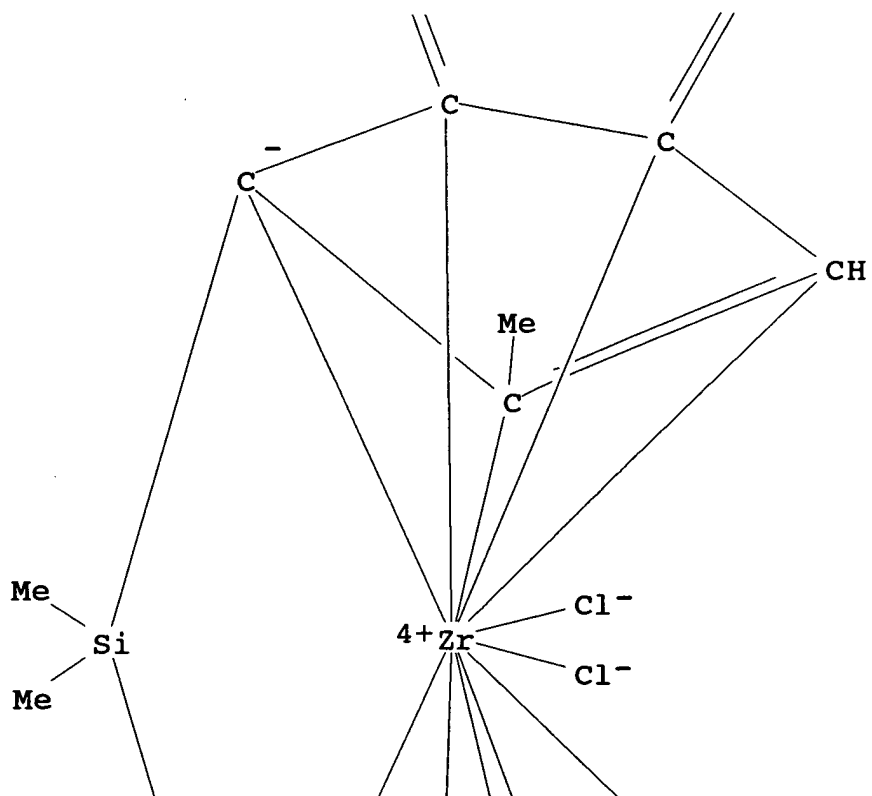
RN 149342-08-5 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

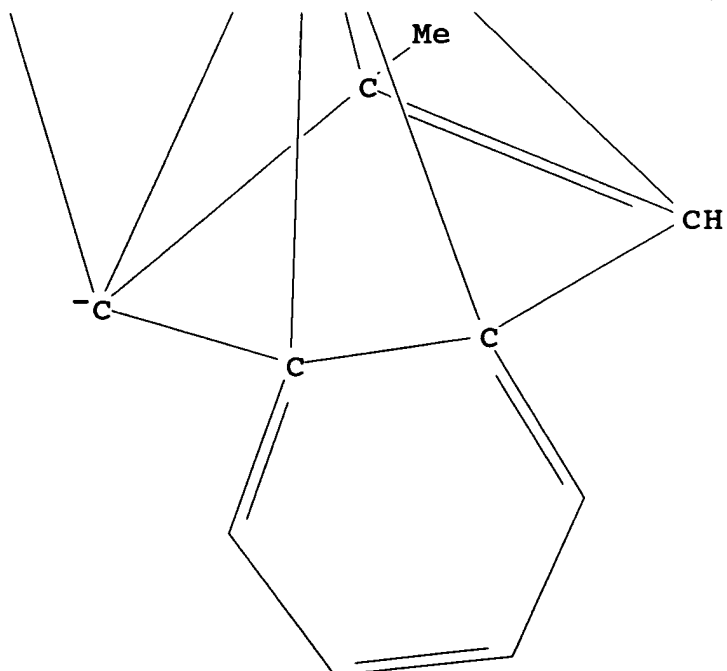
PAGE 1-A



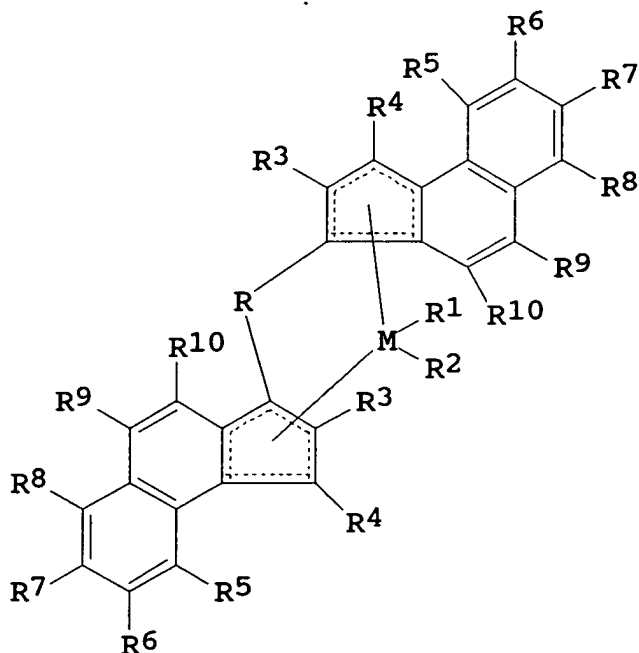
PAGE 2-A



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L49 ANSWER 37 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1994:54699 CAPLUS
DN 120:54699
TI Metallocenes having benzo-fused indenyl derivatives as ligands,
processes for their preparation and their use as olefin
polymerization catalysts
IN Rohrmann, Juergen; Dolle, Volker; Winter, Andreas; Kueber, Frank
PA Hoechst A.-G., Germany
SO Can. Pat. Appl., 44 pp.
CODEN: CPXXEB
PI CA 2084017 AA 930531
AI CA 92-2084017 921127
PRAI DE 91-4139595 911130
DT Patent
LA English
OS CASREACT 120:54699; MARPAT 120:54699
GI



AB Compds. of formula I [M = metal of Group IVB, VB, VIB (preferably Zr or Hf), R1 and R2 are identical or different and may include H, alkyl, alkoxy, aryl, alkenyl, OH or halogen; R3 to R10 are identical or different and may include H, halogen, alkyl, aryl or NR12, SR1, OSiR13, SiR13 or PR12 in which R1 is a halogen atom, an alkyl group or an aryl group; in addn., adjacent radicals R4 to R10, with atoms joining them may form an arom. or aliph. ring; R is a (substituted) alkylene or heteroatom bridge, e.g., BR11, AlR11, Ge, Sn, O, S, SO, NR11, CO, PR11 or P(O)R11, in which R11 may be H, halogen, alkyl,

Searched by Barb O'Bryen, STIC 308-4291

fluoroalkyl, etc.] are claimed, along with a process for their prepn. The process comprises reacting compd. I (wherein MR1R2 = nothing) with MX4, eg., TiCl4 (M = Ti, X = Cl). I are shown to polymerize olefins, e.g., propylene in the presence of methylaluminoxane.

IT 149237-92-3P 151492-19-2P 151593-48-5P

152071-12-0P 152071-14-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and catalytic activity of, in olefin polymn.)

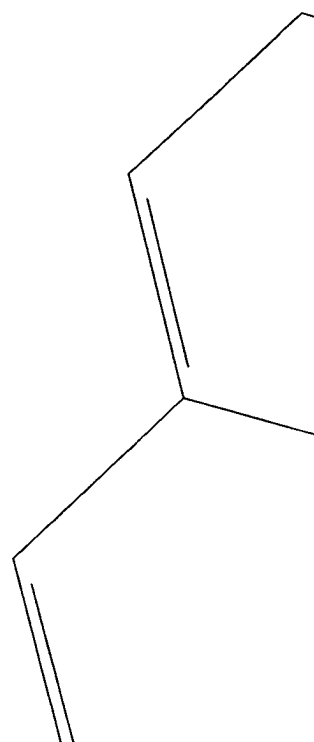
RN 149237-92-3 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,9b-.eta.)-2-methyl-1H-benz[e]inden-1-yl]]- (9CI) (CA INDEX NAME)

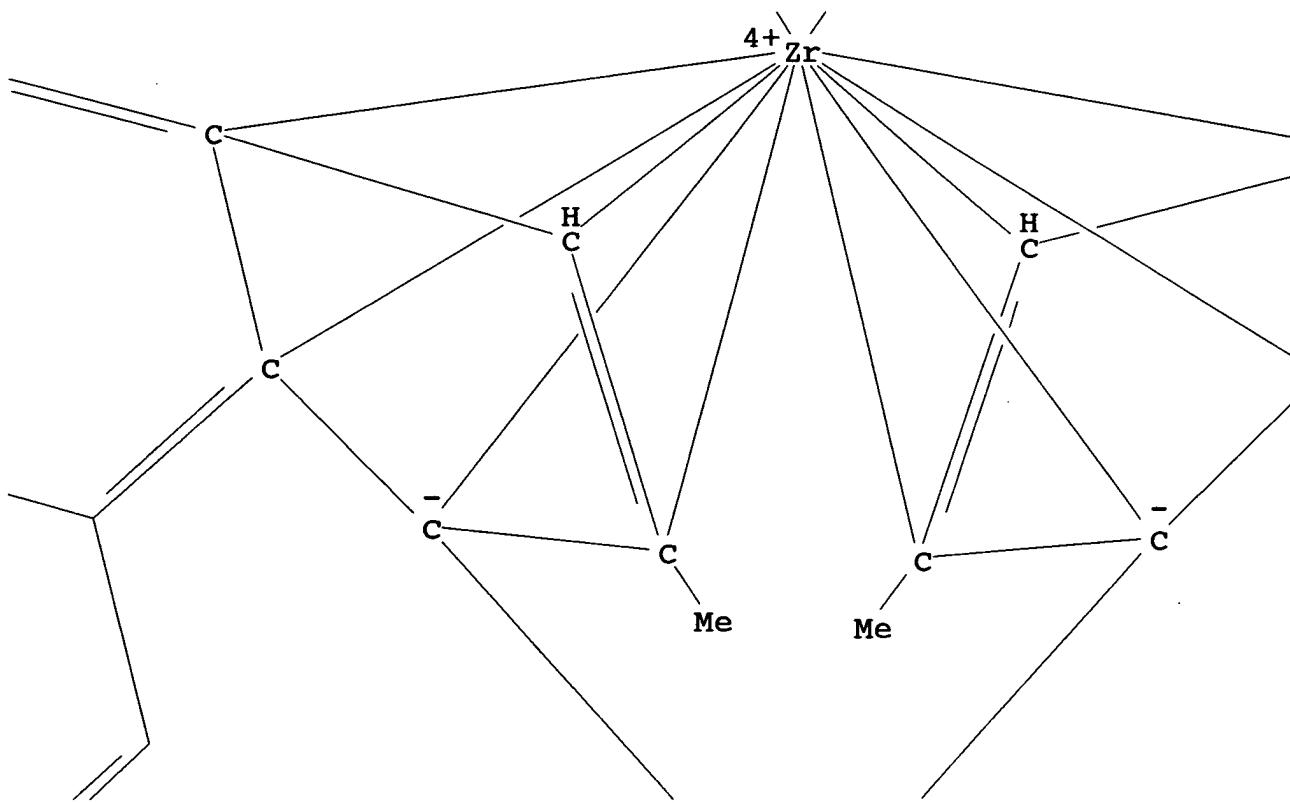
PAGE 1-B



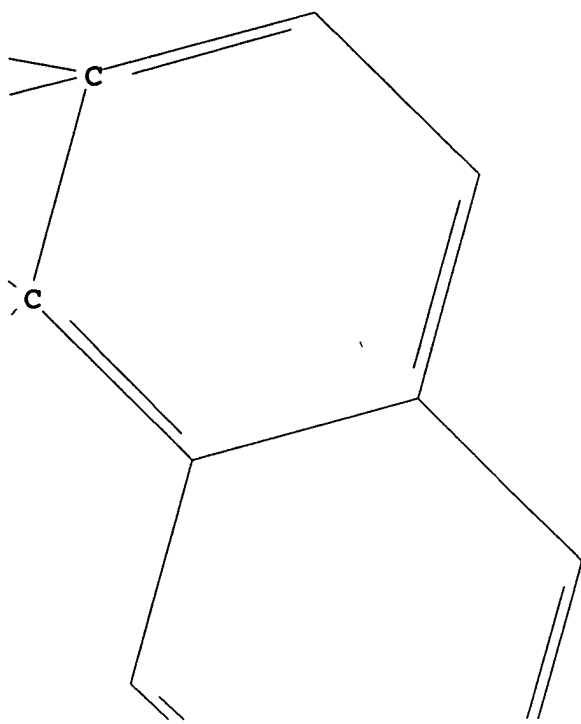
PAGE 2-A



PAGE 2-B



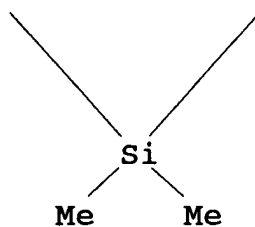
PAGE 2-C



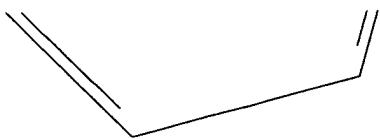
PAGE 3-A



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PAGE 3-C

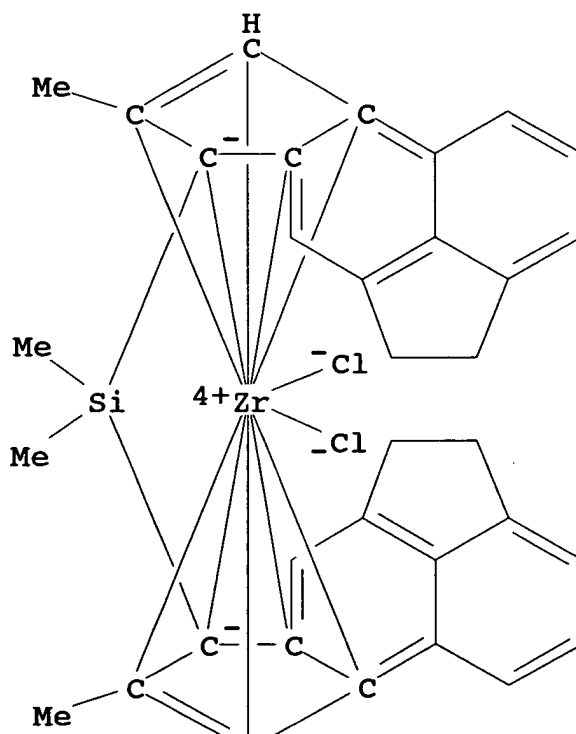


RN 151492-19-2 CAPLUS
CN Zirconium, dichloro[(methylphenylsilylene)bis[(6a,7,8,9,9a-.eta.)-4,5-dihydro-8-methyl-7H-cyclopenta[e]acenaphthylen-7-ylidene]]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 151593-48-5 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(6a,7,8,9,9a-.eta.)-4,5-dihydro-8-methyl-7H-cyclopent[e]acenaphthylen-7-ylidene]]- (9CI) (CA INDEX NAME)

PAGE 1-A

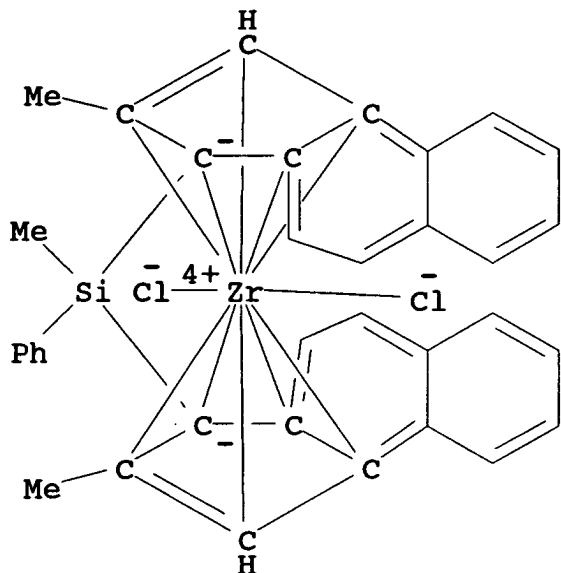


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RN 152071-12-0 CAPLUS

CN Zirconium, dichloro[(methylphenylsilylene)bis[(1,2,3,3a,9b-.eta.)-2-methyl-3H-benz[e]inden-3-ylidene]]- (9CI) (CA INDEX NAME)



RN 152071-14-2 CAPLUS

CN Zirconium, dichloro[.eta.10-(dimethylsilylene)di-3H-benz[e]inden-3-ylidene]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 150096-53-0P 150096-56-3P 151074-62-3P

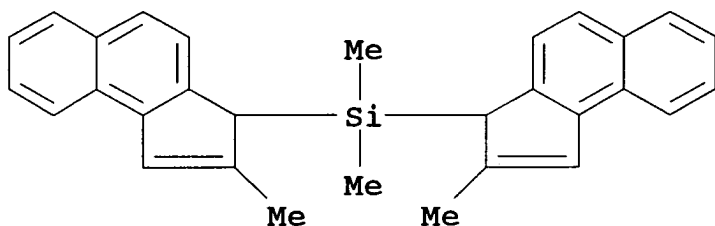
151074-63-4P 151074-65-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and reaction of, with zirconium tetrachloride, olefin polymn. catalysts prepn. by)

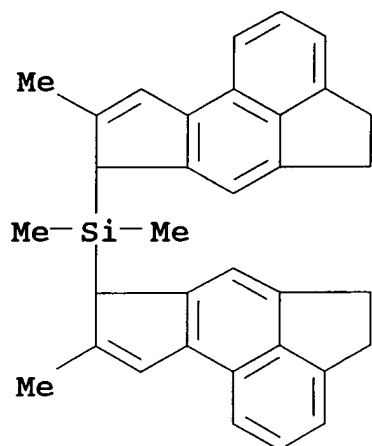
RN 150096-53-0 CAPLUS

CN Silane, dimethylbis(2-methyl-3H-benz[e]inden-3-yl)- (9CI) (CA INDEX NAME)



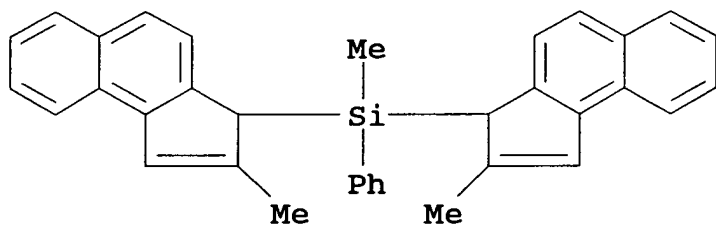
RN 150096-56-3 CAPLUS

CN Silane, bis(5,7-dihydro-8-methyl-4H-cyclopent[e]acenaphthylen-7-yl)dimethyl- (9CI) (CA INDEX NAME)



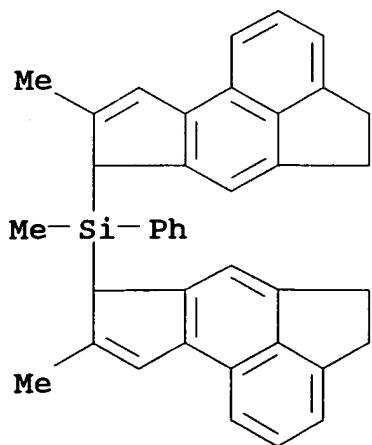
RN 151074-62-3 CAPLUS

CN Silane, methylbis(2-methyl-3H-benz[e]inden-3-yl)phenyl- (9CI) (CA INDEX NAME)



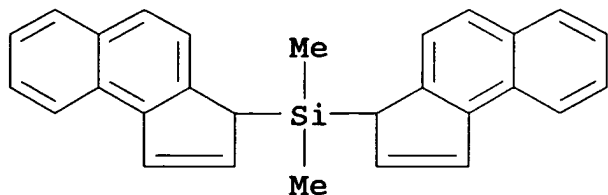
RN 151074-63-4 CAPLUS

CN Silane, bis(5,7-dihydro-8-methyl-4H-cyclopent[e]acenaphthylen-7-yl)methylphenyl- (9CI) (CA INDEX NAME)



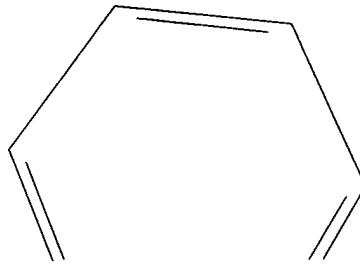
RN 151074-65-6 CAPLUS

CN Silane, bis(3H-benz[e]inden-3-yl)dimethyl- (9CI) (CA INDEX NAME)

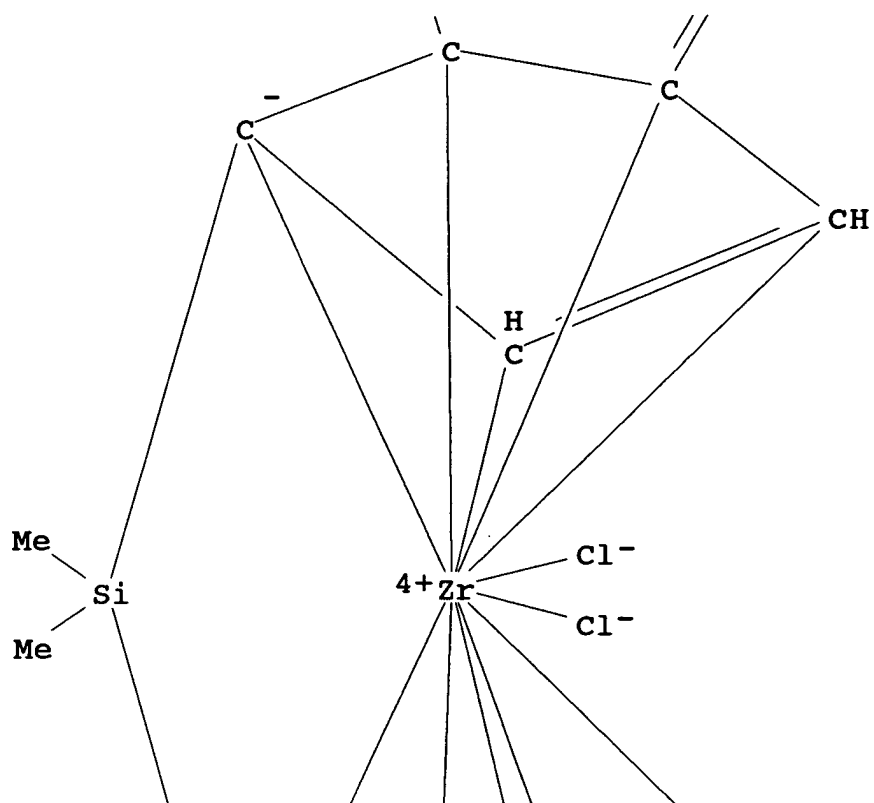


L49 ANSWER 38 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1993:540006 CAPLUS
DN 119:140006
TI Preparation of a bridged metallocene compound as well as a catalyst component and a process for the polymerization of olefins
IN Van Beek, Johannes Antonius Maria
PA DSM N.V., Neth.
SO Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
PI EP 530908 A1 930310
DS R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, PT, SE
AI EP 92-202638 920901
PRAI NL 91-1502 910906
DT Patent
LA English
AB A bridged double ligand reacting with a proton acceptor is converted into a bridged double anion and further reacting with a Group IVB, VB, VIB metal forms a bridged metallocene, the reaction is carried out in a liq. dispersant contg. a weak Lewis base. Adding 13.41 mL 1.74M soln. in hexane of BuLi to 11.67 mmol iso-Pr (9-fluorene)(1-cyclopentadiene) in 40 mL Et2O at -56.degree., heating to 25.degree., cooling to -56.degree., adding to ZrCl4 in Et2O, and allowing to warm to 25.degree. gave a catalyst suspension component (A). C2H4 was polymd. in the presence of A in 50 mL gasoline (0.015M Zr) and Me aluminoxane in PhMe.
IT 119821-97-5P
RL: CAT (Catalyst use); PREP (Preparation); USES (Uses)
(catalysts, prepn. of, for olefin polymn.)
RN 119821-97-5 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

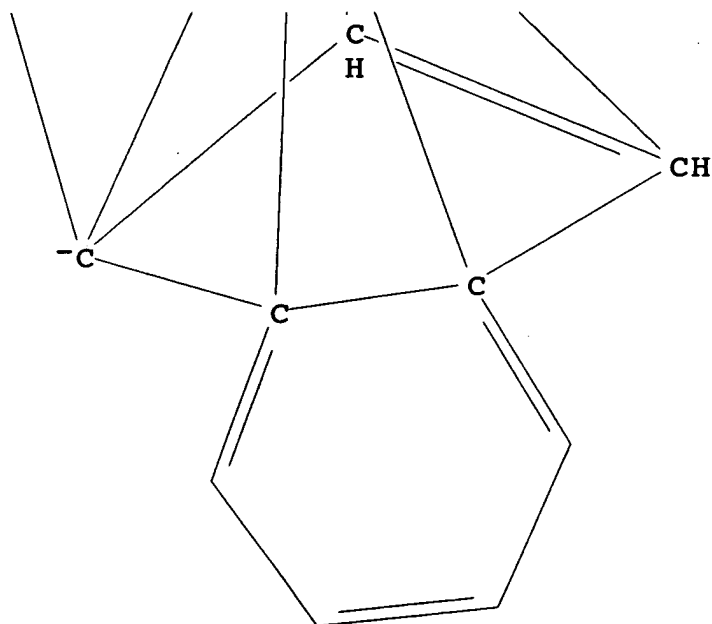
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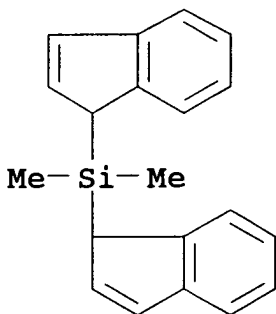
IT 18666-26-7P

RL: PREP (Preparation); RCT (Reactant)

(prepn. and reaction of, with zirconium tetrachloride)

RN 18666-26-7 CAPLUS

CN Silane, di-1H-inden-1-ylidimethyl- (9CI) (CA INDEX NAME)



L49 ANSWER 39 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1993:102914 CAPLUS

DN 118:102914

TI Metallocenes containing ligands of 2-substituted indenyl derivatives, process for their preparation, and their use as polymerization catalysts

IN Winter, Andreas; Antberg, Martin; Spaleck, Walter; Rohrmann, Juergen; Dolle, Volker

PA Hoechst A.-G., Germany

SO Can. Pat. Appl., 31 pp.

CODEN: CPXXEB

PI CA 2055218 AA 920513

AI CA 91-2055218 911108

PRAI DE 90-4035388 901112

DT Patent

LA English

OS MARPAT 118:102914

AB Olefins, esp. C₃H₆, are stereospecifically polymd. using the title catalysts to give polymers with high crystallinity, hardness and m.p., useful as engineering materials. Thus, C₃H₆ was polymd. using dimethyl(2-methyl-4,5,6,7-tetrahydro-1-indenyl)₂zirconium dichloride and Me aluminoxane catalyst to give a polymer with isotactic index 96% and mol. wt. 24,300.

IT 143278-86-8P

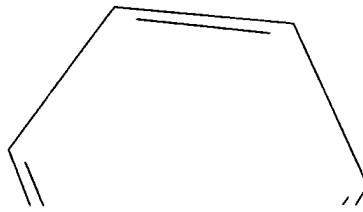
RL: PREP (Preparation); RCT (Reactant)

(prepn. and hydrogenation of)

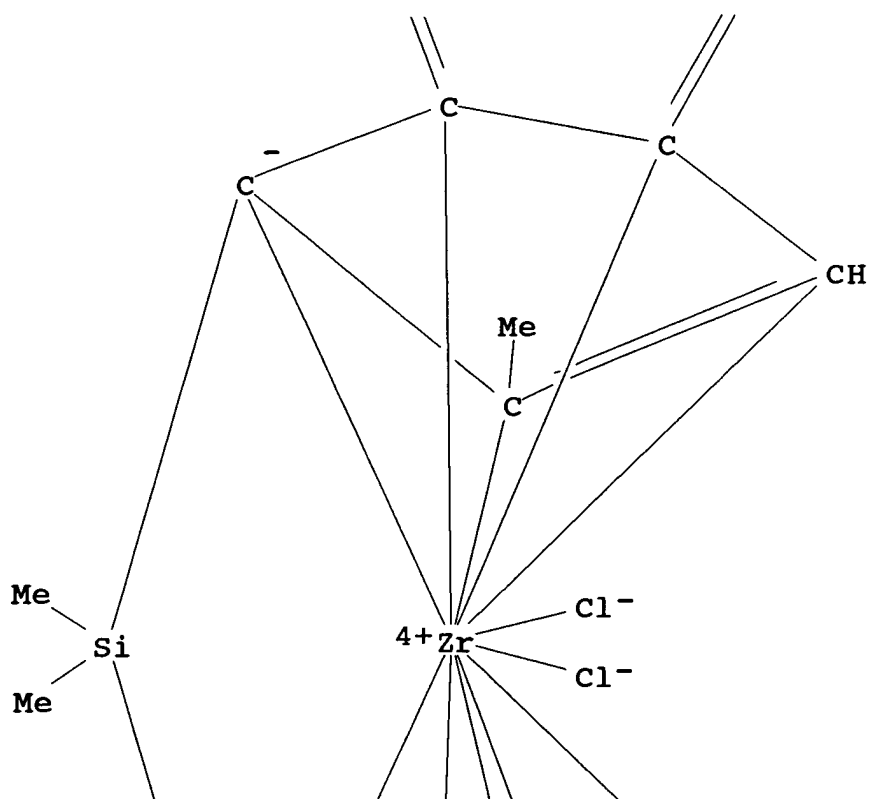
RN 143278-86-8 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]-, (R*,R*)- (9CI) (CA INDEX NAME)

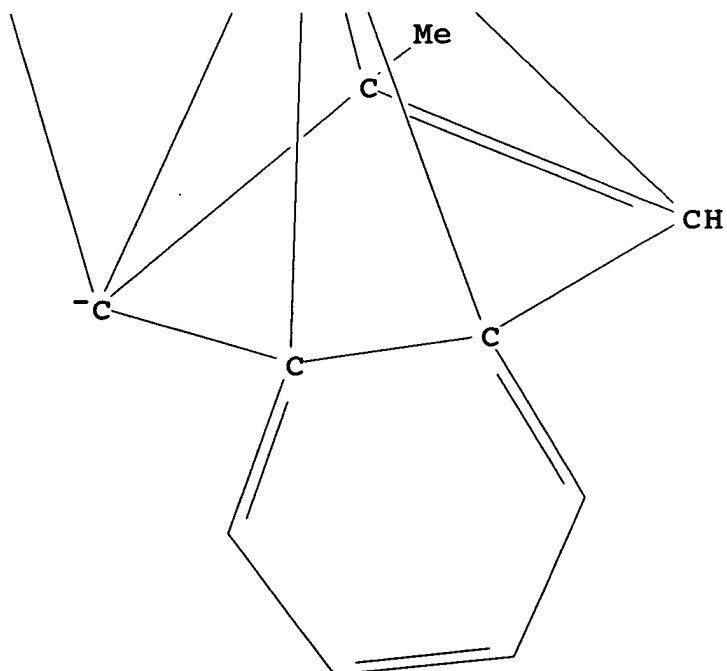
PAGE 1-A



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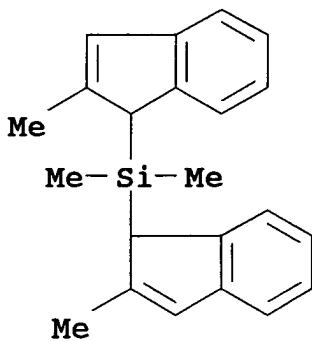
IT 143232-13-7P

RL: PREP (Preparation); RCT (Reactant)

(prepn. and reaction of, with zirconium tetrachloride)

RN 143232-13-7 CAPLUS

CN Silane, dimethylbis(2-methyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



IT 144330-22-3P 144330-23-4P 144330-25-6P

RL: PREP (Preparation)

(prepn. of, catalysts, for polymn. of olefins)

RN 144330-22-3 CAPLUS

CN Zirconium, dichloro[(methylphenylsilylene)bis[(1,2,3,3a,7a-eta.)-4,5,6,7-tetrahydro-2-methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 144330-23-4 CAPLUS

CN Zirconium, dichloro[(diphenylsilylene)bis[(1,2,3,3a,7a-eta.)-4,5,6,7-tetrahydro-2-methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 144330-25-6 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-2-ethyl-4,5,6,7-tetrahydro-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L49 ANSWER 40 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1992:531730 CAPLUS

DN 117:131730

TI Olefin polymers, their preparation and metallocene catalysts therefore

IN Winter, Andreas; Antberg, Martin; Spaleck, Walter; Rohrmann, Juergen; Dolle, Volker

PA Hoechst A.-G., Germany

SO Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

PI EP 485820 A2 920520

DS R: BE, DE, ES, FR, GB, IT, NL

Searched by Barb O'Bryen, STIC 308-4291

AI EP 91-118679 911101
PRAI DE 90-4035885 901112
DT Patent
LA German
OS MARPAT 117:131730

AB The title polymes are obtained by olefin polymn. in the presence of aluminoxanes and bis(tetrahydroindenyl) transition metal complexes (I; R1,R2 = H, org.-group, halogen; R3,R4 = H, halogen, org. group optionally contg. heteroatom or halogen; R5,R6 as for R3,R4 but not H; R7 = org. or heteroatom-contg. org. group; R8,R9,R10 = H, halogen, org. group; m, n = 0-2, with m + n = 0-2; .mu. = IVb, Vb, VIb element). Thus, dimethylsilylenebis(2-methyl-4,5,6,7-tetrahydro-1-indene)zirconium dichloride (II) was obtained by hydrogenation of the methylindene analog. To propylene (12 dm2) mixed with 35 cm3 PhMe contg. Me aluminoxane (52 mmol Al) at 30.degree. was added 5.3 mg II mixed with Me aluminoxane (20 mmol Al) and polymn. was undertaken at 70.degree. to provide isotactic polypropylene at 50.34 kg polymer/g II. The use of catalysts contg. indene instead of tetrahydroindene or without substitution at the 2 position of the indene ring gave polymer with lower crystallinity and m.p.

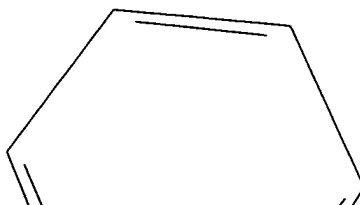
IT 143278-86-8P

RL: PREP (Preparation); RCT (Reactant)
(prepn. and hydrogenation of)

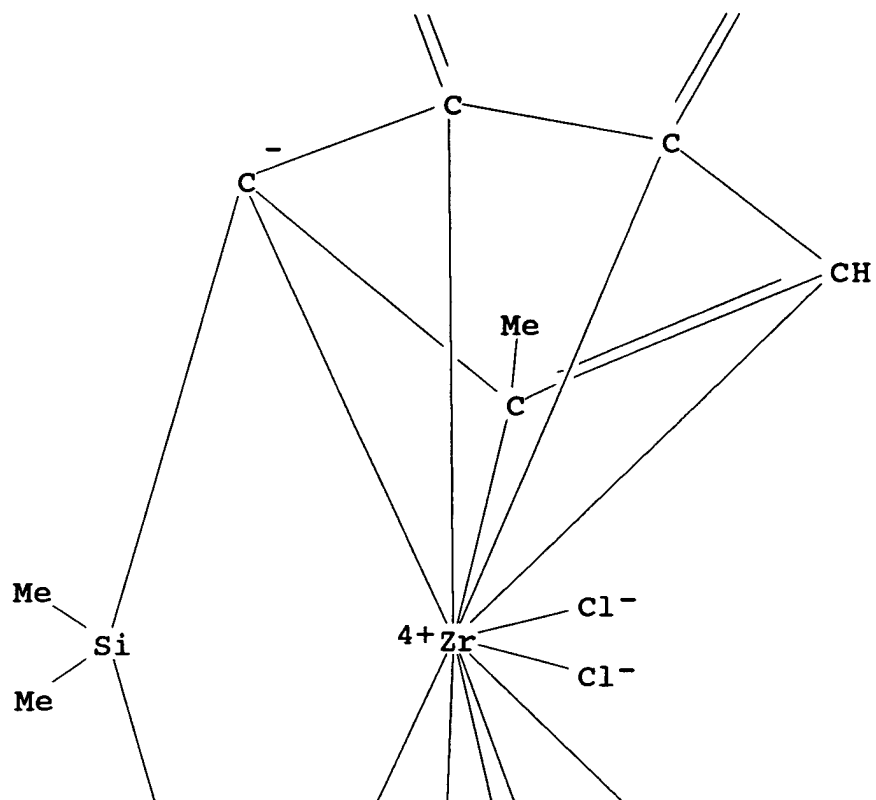
RN 143278-86-8 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]-, (R*,R*)- (9CI) (CA INDEX NAME)

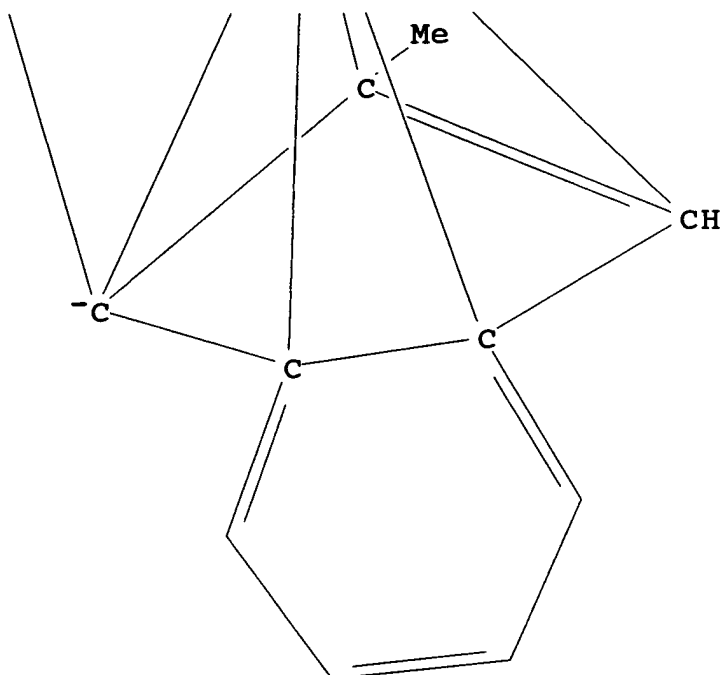
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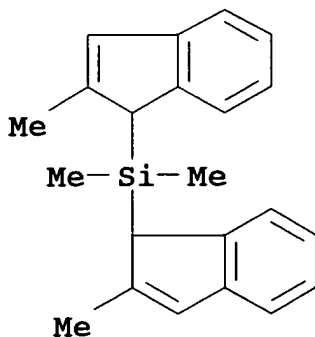


IT 143232-13-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. and reaction with zirconium chloride)

RN 143232-13-7 CAPLUS

CN Silane, dimethylbis(2-methyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



IT 143434-17-7P 143490-92-0P

RL: PREP (Preparation)
(prepn. of, for polymn. of olefins)

RN 143434-17-7 CAPLUS

CN Zirconium, [(dimethylsilylene)bis[(1,2,3,3a,7a-eta.)-4,5,6,7-tetrahydro-2-methyl-1H-inden-1-ylidene]]dimethyl-, stereoisomer
(9CI) (CA INDEX NAME)

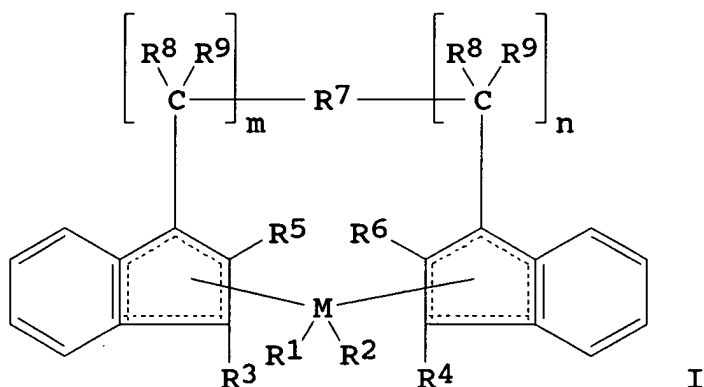
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Searched by Barb O'Bryen, STIC 308-4291

RN 143490-92-0 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-4,5,6,7-tetrahydro-2-methyl-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L49 ANSWER 41 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1992:531729 CAPLUS
DN 117:131729
TI Substituted bisindenyl-metallocenes, their preparation and use as catalysts for the polymerization of olefins
IN Winter, Andreas; Antberg, Martin; Spaleck, Walter; Rohrmann, Juergen; Dolle, Volker
PA Hoechst A.-G., Germany
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
PI EP 485823 A1 920520
DS R: BE, DE, ES, FR, GB, IT, NL
AI EP 91-118682 911101
PRAI DE 90-4035883 901112
DT Patent
LA German
OS MARPAT 117:131729
GI



AB I (R1,R2 = H, org. group, halogen; R3,R4 = H, halogen, org. group optionally contg. heteroatom; R5,R6 = as for R3, R4 but not H; R7 = org. or heteroatom-contg. org. group; R8,R9,R10 = H, halogen, org. group; m,n = 0-2, with m + n = 0-2,; M = IVb, Vb, VIIb element) are obtained for use as catalysts, in conjunction with aluminoxanes, for the stereospecific polymn. of olefins. Thus, 1,2-ethenediylbis(2-methyl-1-indene)zirconium dichloride (II) was obtained from the ligand and ZrCl₄ in THF. Propylene (12 dm³) was mixed with 35 cm³ PhMe contg. Me aluminoxane (52 mmol Al) and to this was added 6.9 mg II and Me aluminoxane (20 mmol Al) in PhMe and the mixt. was heated at 70.degree. to give 1.56 kg isotactic polypropylene (226 kg

Searched by Barb O'Bryen, STIC 308-4291

polymer/g II). Use of metallocenes unsubstituted in the 2-position of the indene ring resulted in lower mol. wt. polymers.

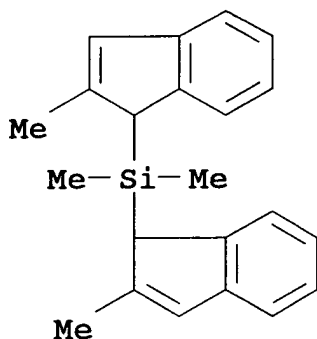
IT 143232-13-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and reaction with zirconium chloride)

RN 143232-13-7 CAPLUS

CN Silane, dimethylbis(2-methyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



IT 143278-86-8P 143278-89-1P 143278-90-4P

143278-92-6P 143278-95-9P 143301-15-9P

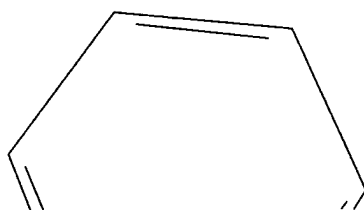
RL: PREP (Preparation)

(prepn. of, as catalysts for stereospecific polymn. of propylene)

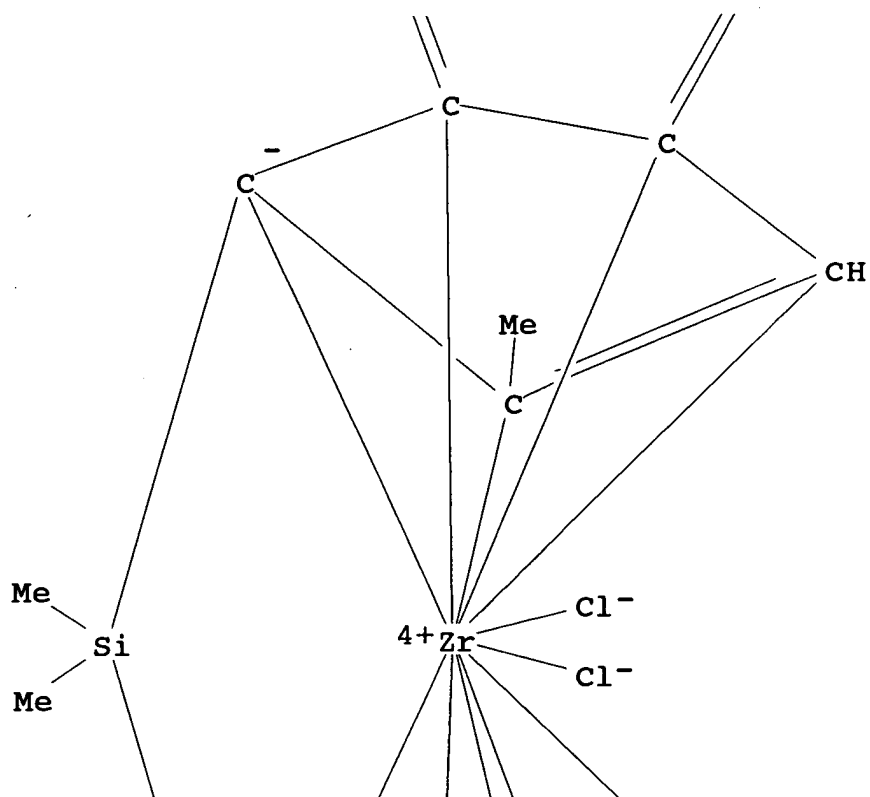
RN 143278-86-8 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]-, (R*,R*)- (9CI) (CA INDEX NAME)

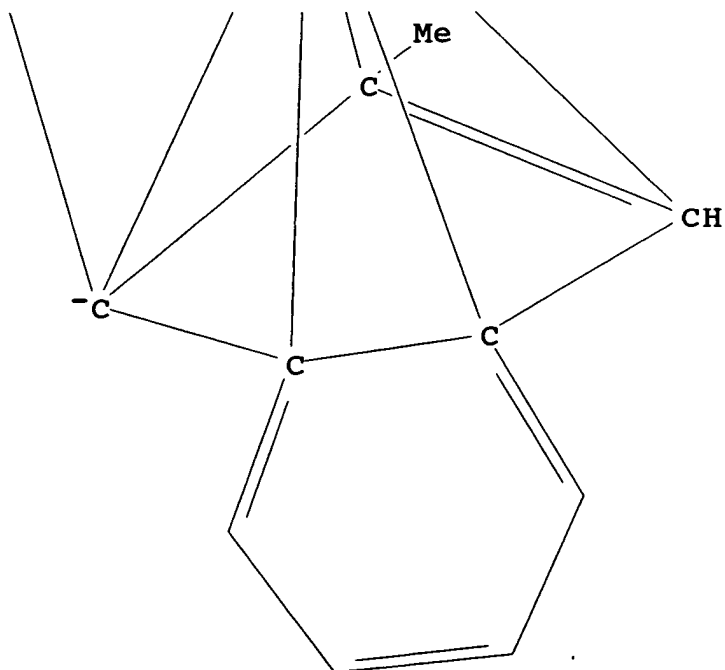
PAGE 1-A



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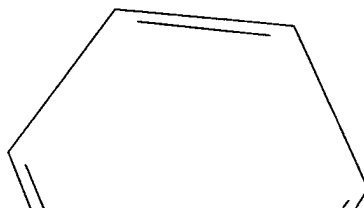


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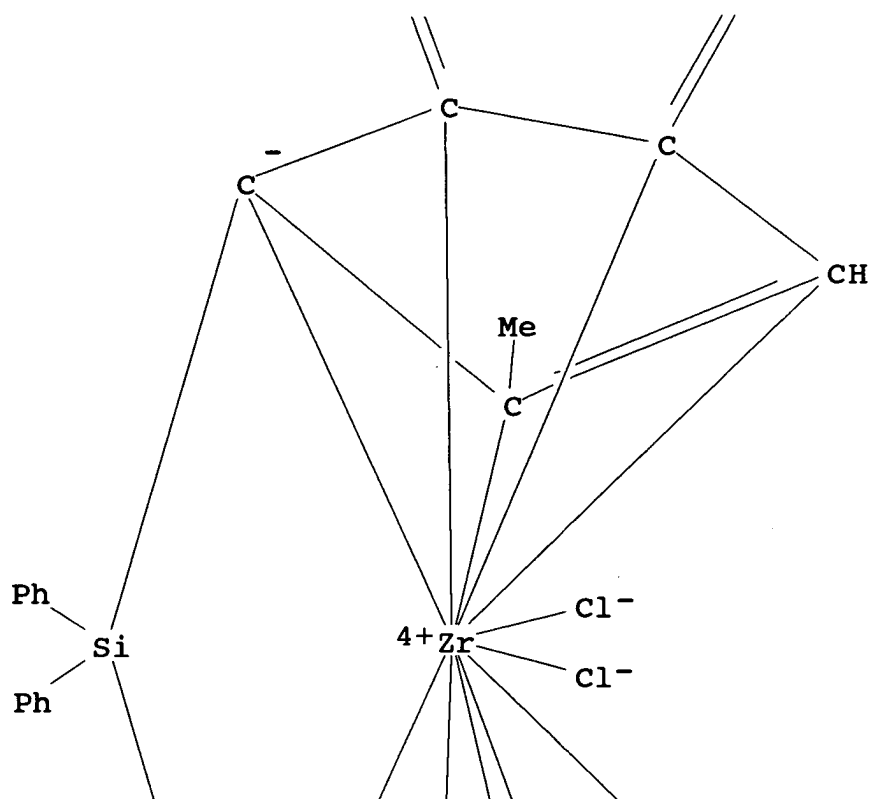


RN 143278-89-1 CAPLUS
CN Zirconium, dichloro[(diphenylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

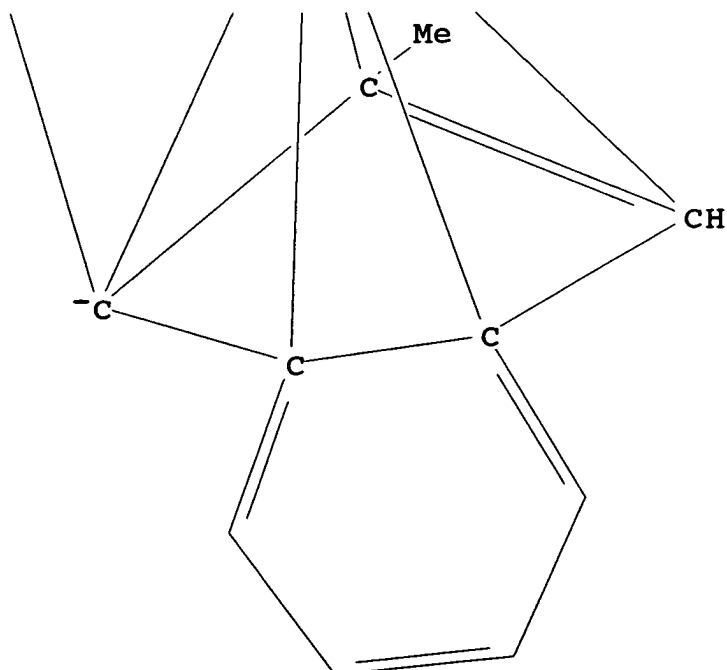
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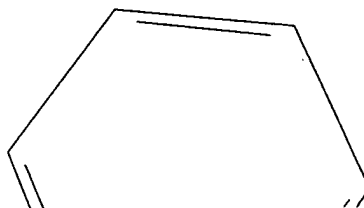


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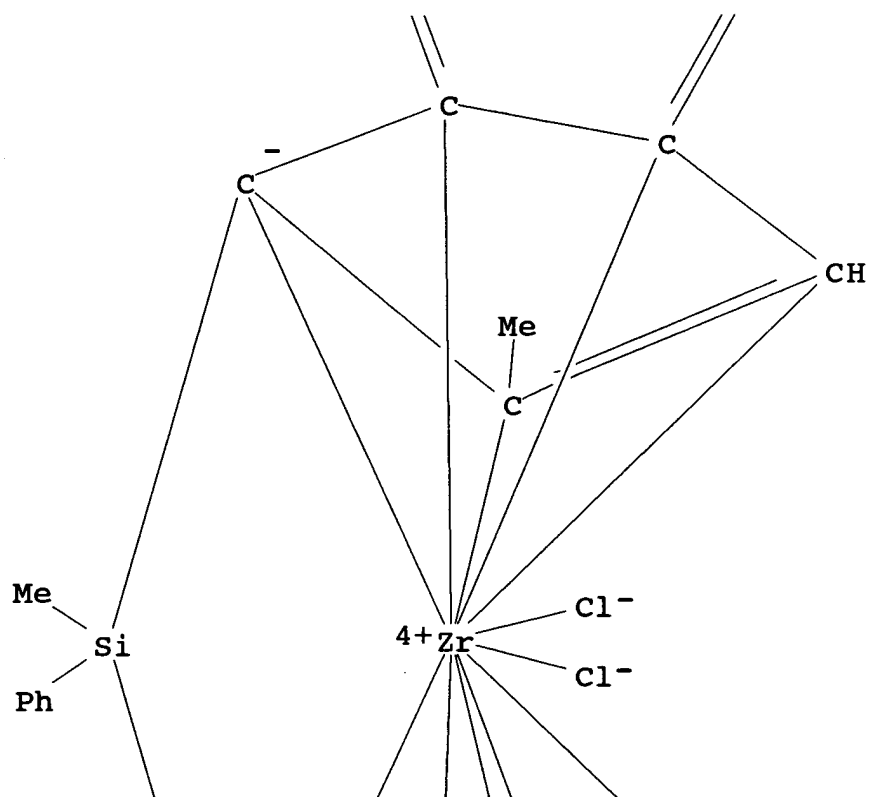


RN 143278-90-4 CAPLUS
CN Zirconium, dichloro[(methylphenylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

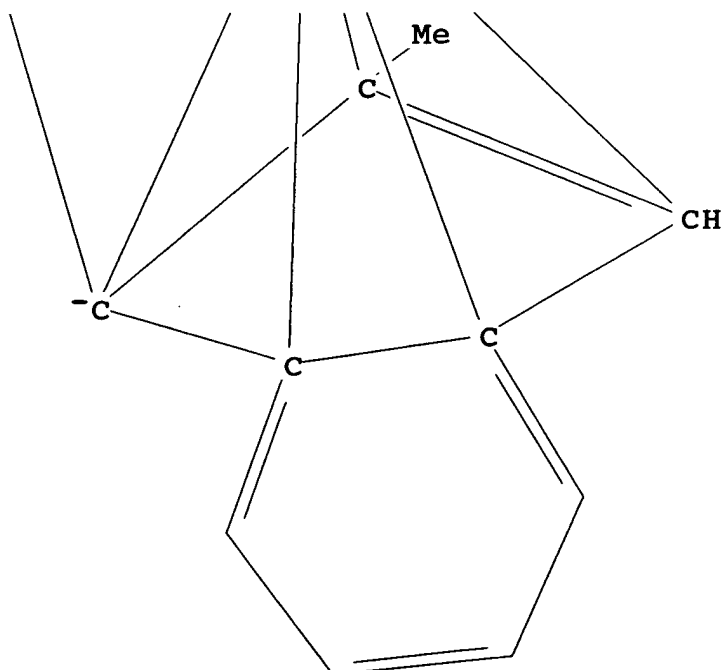
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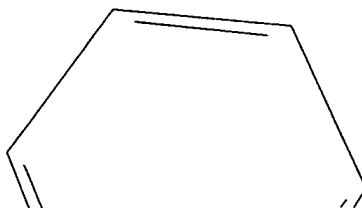


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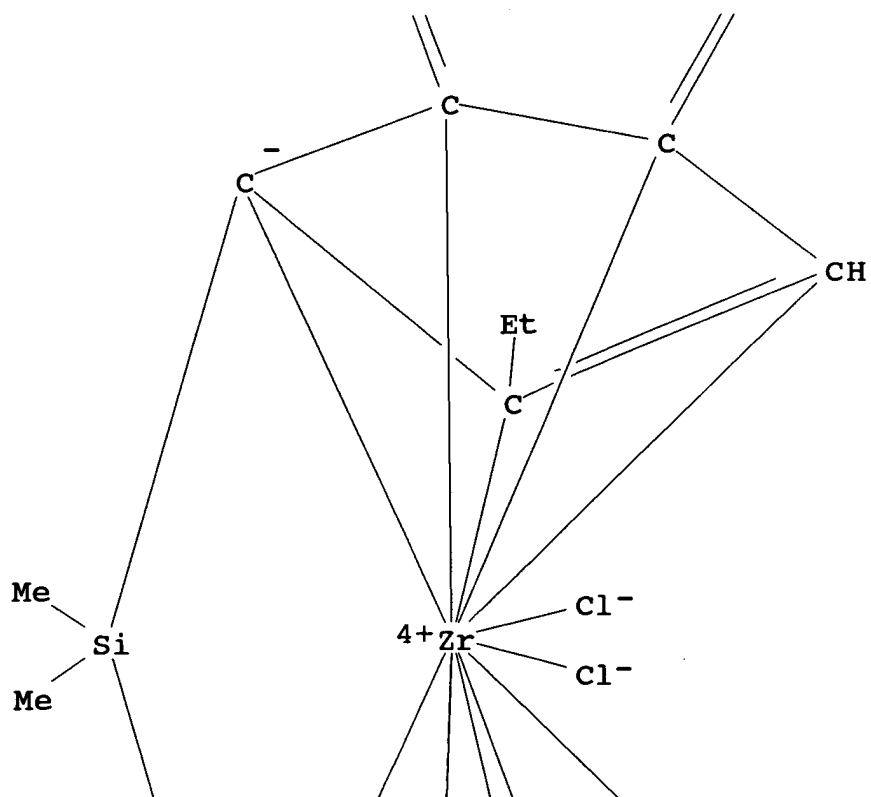


RN 143278-92-6 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-ethyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

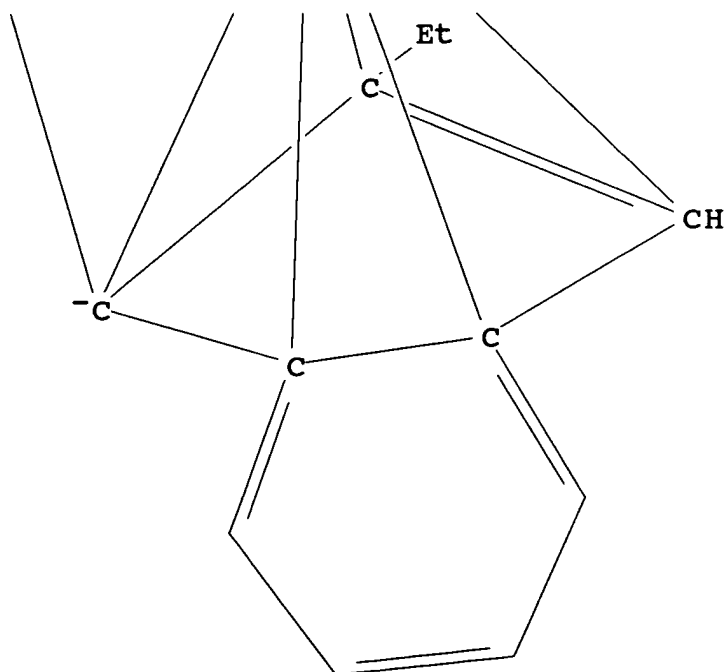
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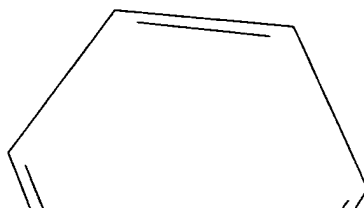


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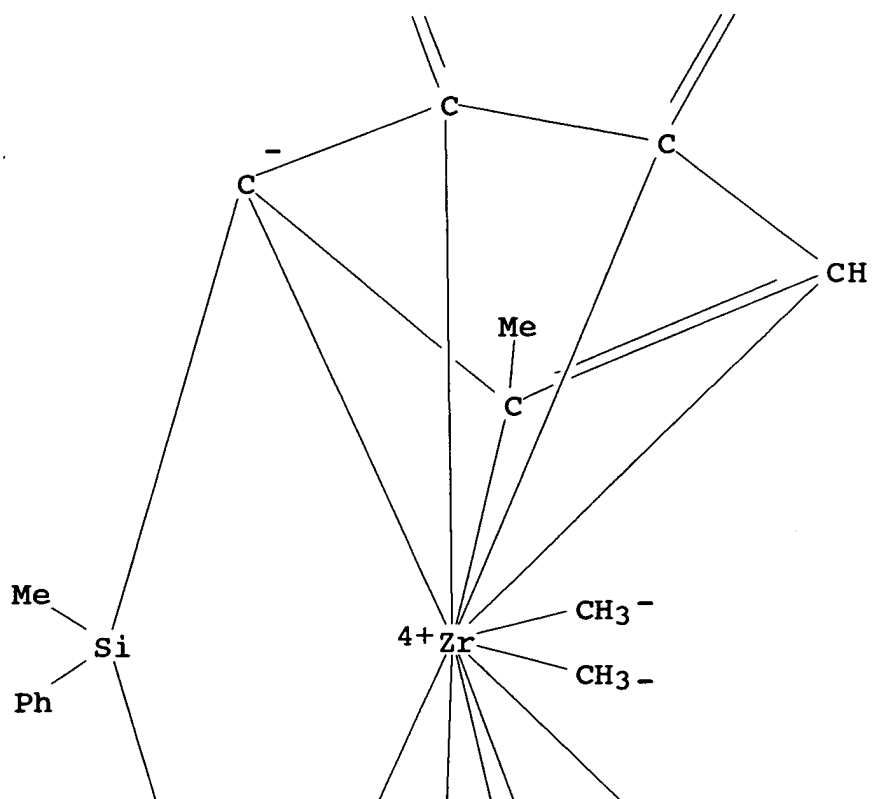


RN 143278-95-9 CAPLUS
CN Zirconium, dimethyl[(methylphenylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

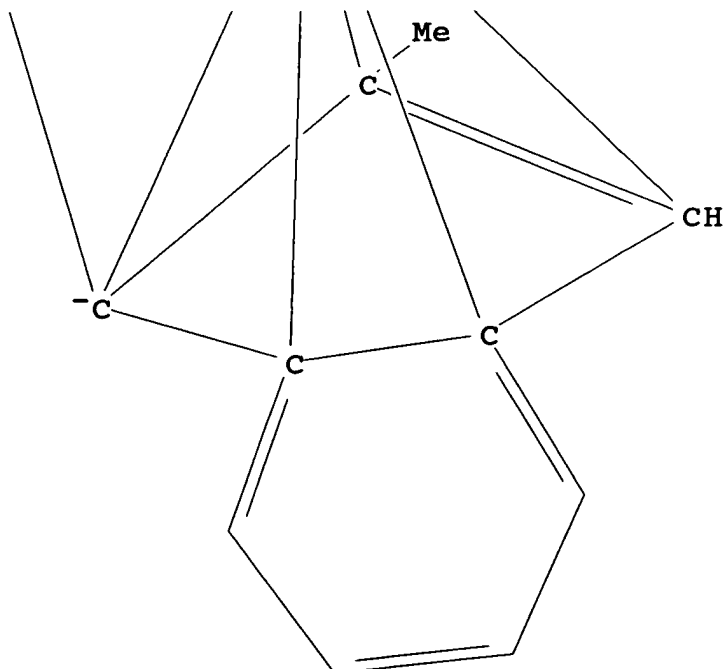
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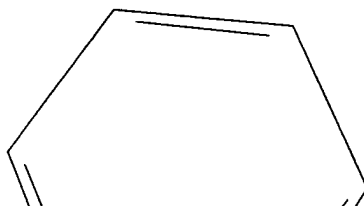


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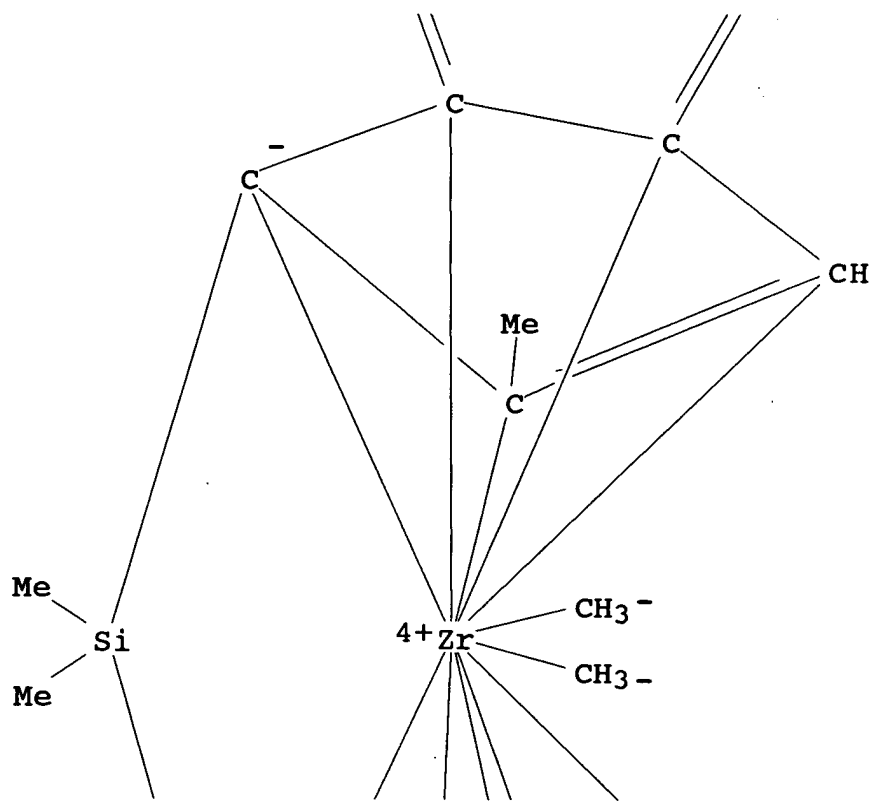


RN 143301-15-9 CAPLUS
CN Zirconium, [(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-2-methyl-1H-inden-1-ylidene]]dimethyl-, (R*,R*)- (9CI) (CA INDEX NAME)

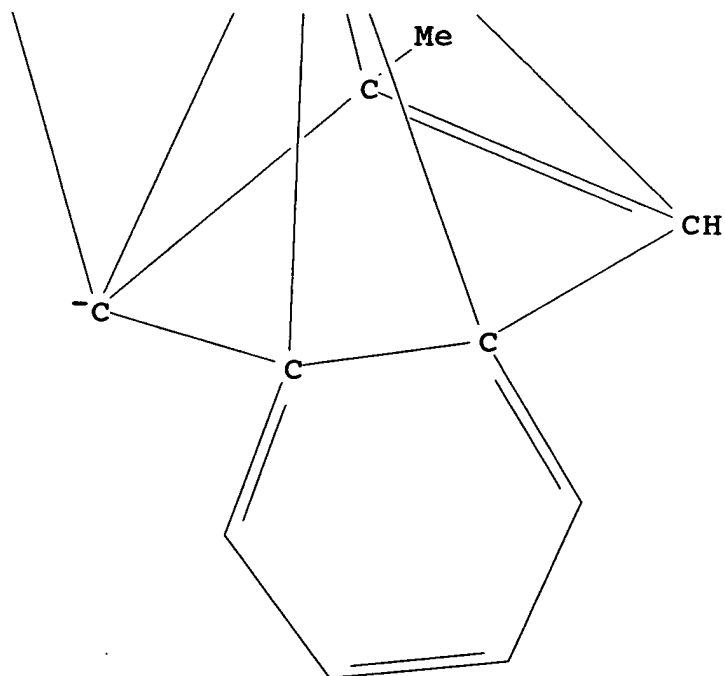
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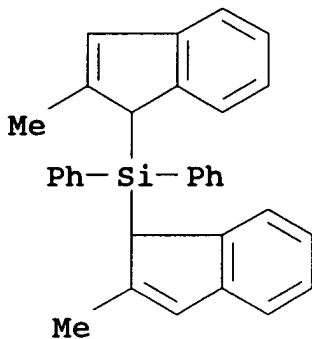
IT 143232-15-9 143232-17-1 143246-72-4

RL: RCT (Reactant)

(reaction of, with zirconium chloride)

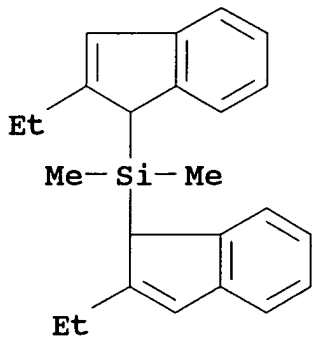
RN 143232-15-9 CAPLUS

CN Silane, bis(2-methyl-1H-inden-1-yl)diphenyl- (9CI) (CA INDEX NAME)



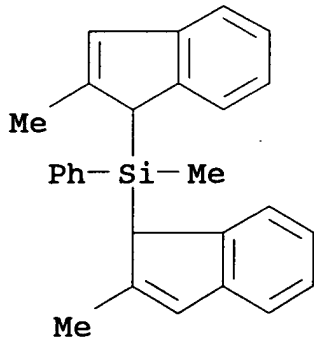
RN 143232-17-1 CAPLUS

CN Silane, bis(2-ethyl-1H-inden-1-yl)dimethyl- (9CI) (CA INDEX NAME)



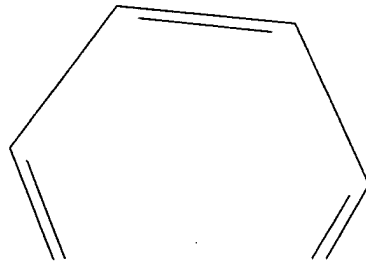
RN 143246-72-4 CAPLUS

CN Silane, methylbis(2-methyl-1H-inden-1-yl)phenyl- (9CI) (CA INDEX NAME)

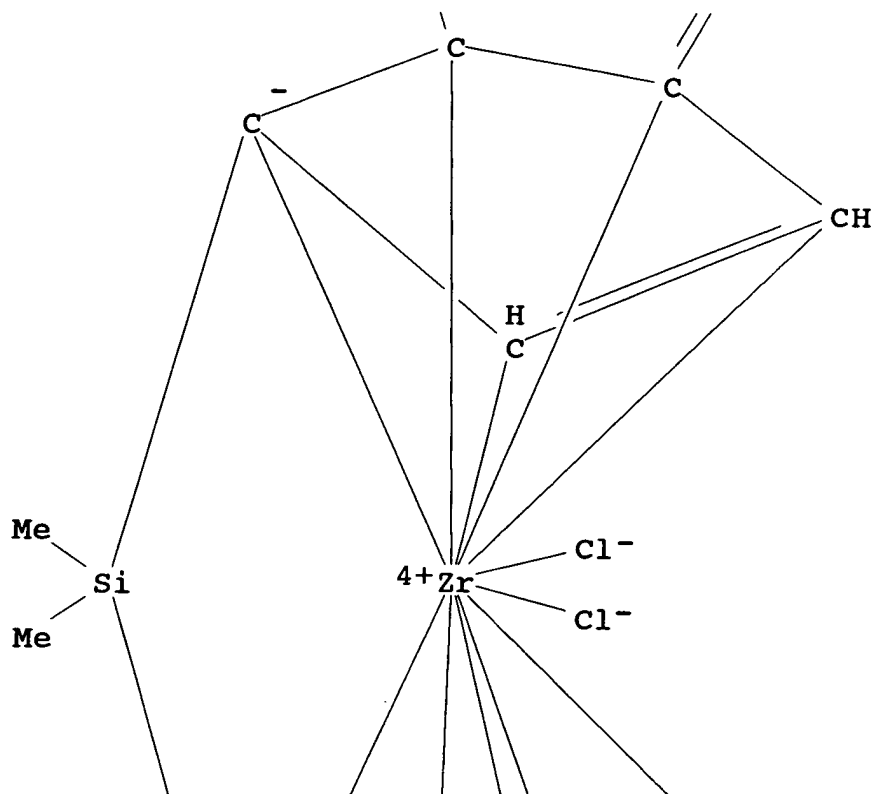


L49 ANSWER 42 OF 43 CAPLUS COPYRIGHT 1996 ACS
AN 1991:247975 CAPLUS
DN 114:247975
TI Polymerization of cycloolefins with metallocene-aluminoxane catalysts, and the resulting polymers
IN Brekner, Michael Joachim; Rohrmann, Juergen; Spaleck, Walter; Antberg, Martin
PA Hoechst A.-G., Fed. Rep. Ger.
SO Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
PI EP 407870 A2 910116
DS R: BE, DE, ES, FR, GB, IT, NL
AI EP 90-112732 900704
PRAI DE 89-3922546 890708
DT Patent
LA German
OS MARPAT 114:247975
AB Polymn. of bi- or polycyclic cycloolefins contg. .gtoreq.1 endomethylene group with monocyclic cycloolefins and/or acyclic olefins in the presence of metallocenes of Ti, Zr, Hf, V, Nb, or Ta and aluminoxanes gives copolymers with viscosity no. >20 mL/g and often with glass temp. >100.degree.. Stirring a soln. (aged 15 min) of 30.5 mg [1,1'-(dimethylsilylene)bisindenyl]zirconium dichloride (prepd. from di-1-indenyldimethylsilane and ZrCl4.cntdot.2THF in THF) in 10 mL 10.1% PhMe soln. of Me aluminoxane (mol. wt. 1300) with 20 mL of the same aluminoxane soln., 25 g norbornene, 750 mL PhMe, and C2H4 at 20.degree./1 bar for 1 h gave 55 g copolymer with viscosity no. 244 mL/g and glass temp. 32.degree..
IT 121009-93-6P
RL: CAT (Catalyst use); PREP (Preparation); USES (Uses)
(catalysts, with aluminoxanes, for polymn. of cycloolefins with olefins, prepn. of)
RN 121009-93-6 CAPLUS
CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

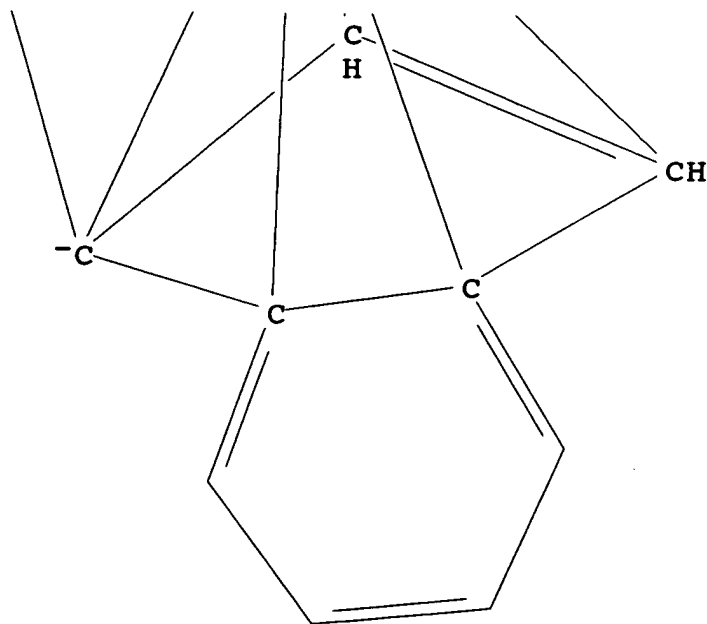
PAGE 1-A



PAGE 2-A



PAGE 3-A

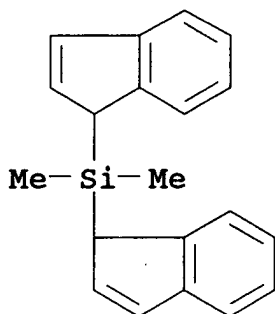


IT 18666-26-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. and reaction with zirconium chloride)

RN 18666-26-7 CAPLUS

CN Silane, di-1H-inden-1-ylidimethyl- (9CI) (CA INDEX NAME)



L49 ANSWER 43 OF 43 CAPLUS COPYRIGHT 1996 ACS

AN 1990:139579 CAPLUS

DN 112:139579

TI Process for the preparation of chiral, stereorigid metallocene compounds as polymerization catalysts

IN Rohrmann, Juergen; Hermann, Wolfgang Anton

PA Hoechst A.-G., Fed. Rep. Ger.

SO Eur. Pat. Appl., 4 pp.

CODEN: EPXXDW

PI EP 320762 A2 890621

DS R: BE, DE, ES, FR, GB, IT, NL

AI EP 88-120401 881207

PRAI DE 87-3742934 871218

DT Patent

LA German

OS MARPAT 112:139579

AB Chiral, stereorigid [R₁R₂Si(indenyl)₂]MX₂ (I; R₁, R₂ = C₁-20 alkyl, C₂-20 alkenyl, C₇-20 aralkyl, alkylaryl; M = Ti, Zr, Hf; X = halo], useful, e.g., as cocatalysts for prodn. of highly isotactic polypropylene, were prepd. Thus, Me₂Si(indenyl)₂ in Et₂O/hexane was treated with BuLi in hexane with cooling. The mixt. was stirred 2 h to give the di-Li salt as an etherate. The latter reacted with HfCl₄·2THF in Et₂O at -78.degree. to give [Me₂Si(indenyl)₂]HfCl₂.

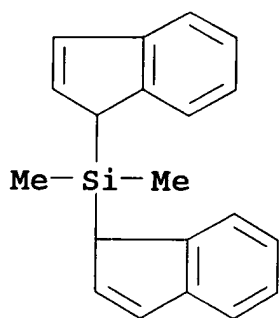
IT 18666-26-7 124684-48-6

RL: RCT (Reactant)

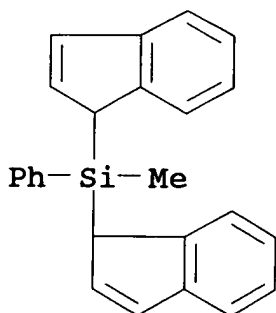
(lithiation of, in prepn. of polymn. catalysts)

RN 18666-26-7 CAPLUS

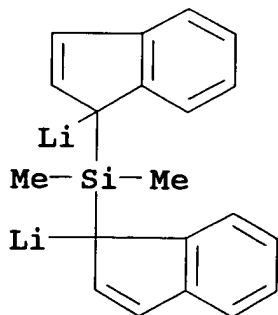
CN Silane, di-1H-inden-1-ylidimethyl- (9CI) (CA INDEX NAME)



RN 124684-48-6 CAPLUS
CN Silane, di-1H-inden-1-ylmethylphenyl- (9CI) (CA INDEX NAME)



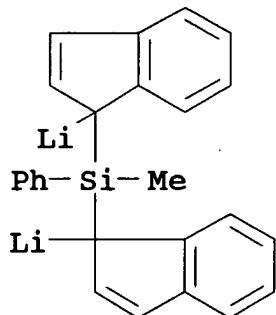
IT 124684-47-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. and reaction of, with hafnium tetrachloride and zirconium tetrachloride)
RN 124684-47-5 CAPLUS
CN Lithium, [μ -[1,1'-(dimethylsilylene)di-1H-inden-1-ylidene]]di- (9CI) (CA INDEX NAME)



IT 124715-50-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. and reaction of, with hafnium tetrachloride, in prepn. of
Searched by Barb O'Bryen, STIC 308-4291

polymn. catalysts)

RN 124715-50-0 CAPLUS

CN Lithium, [μ -(methylphenylsilylene)di-1H-inden-1-ylidene]]di-
(9CI) (CA INDEX NAME)

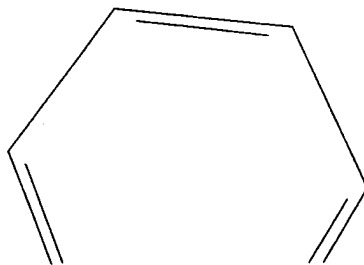
IT 121009-93-6P 124684-46-4P 124684-49-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as chiral polymn. cocatalyst)

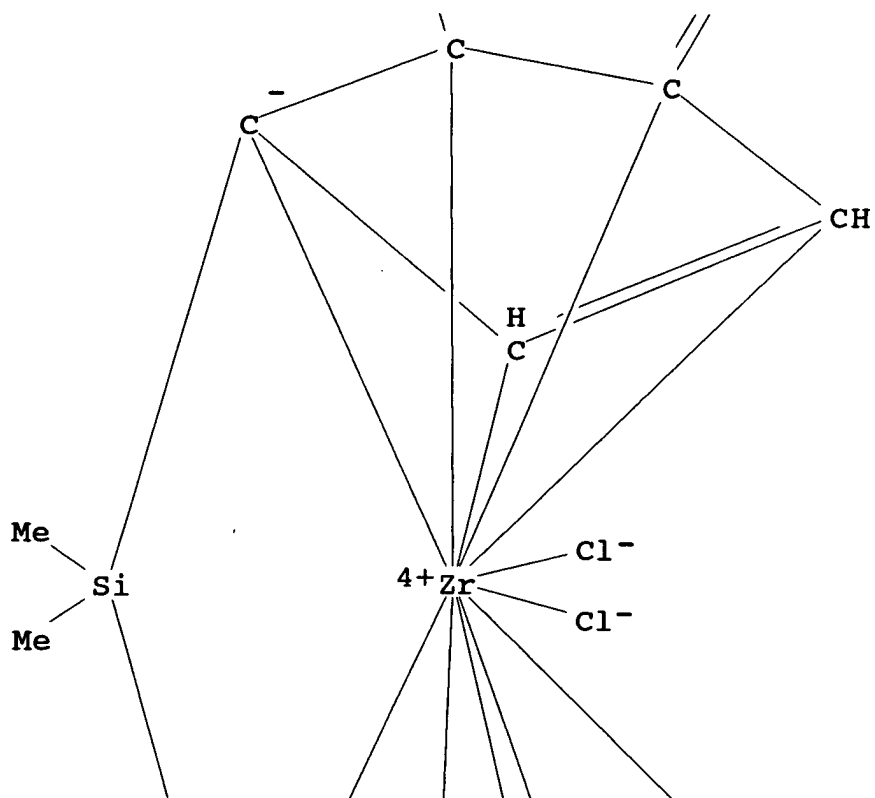
RN 121009-93-6 CAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a- η)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

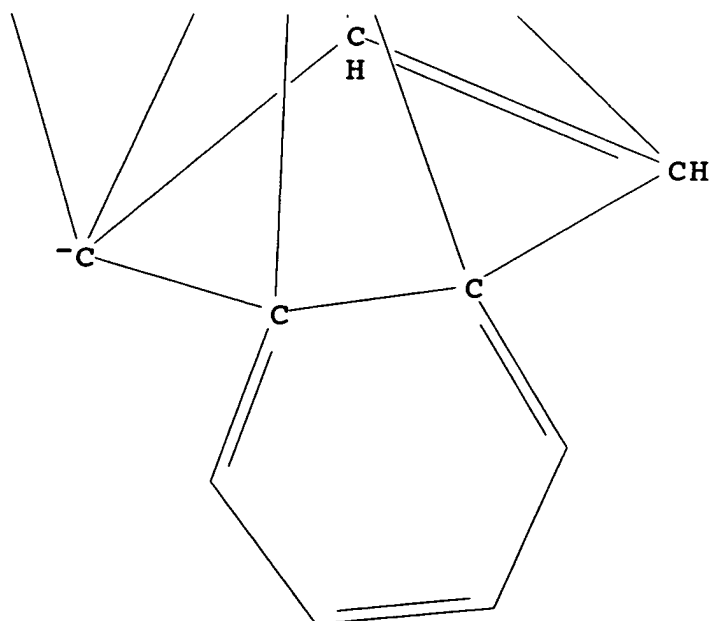
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PAGE 2-A



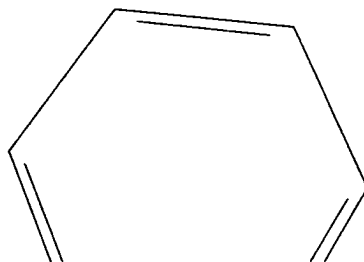
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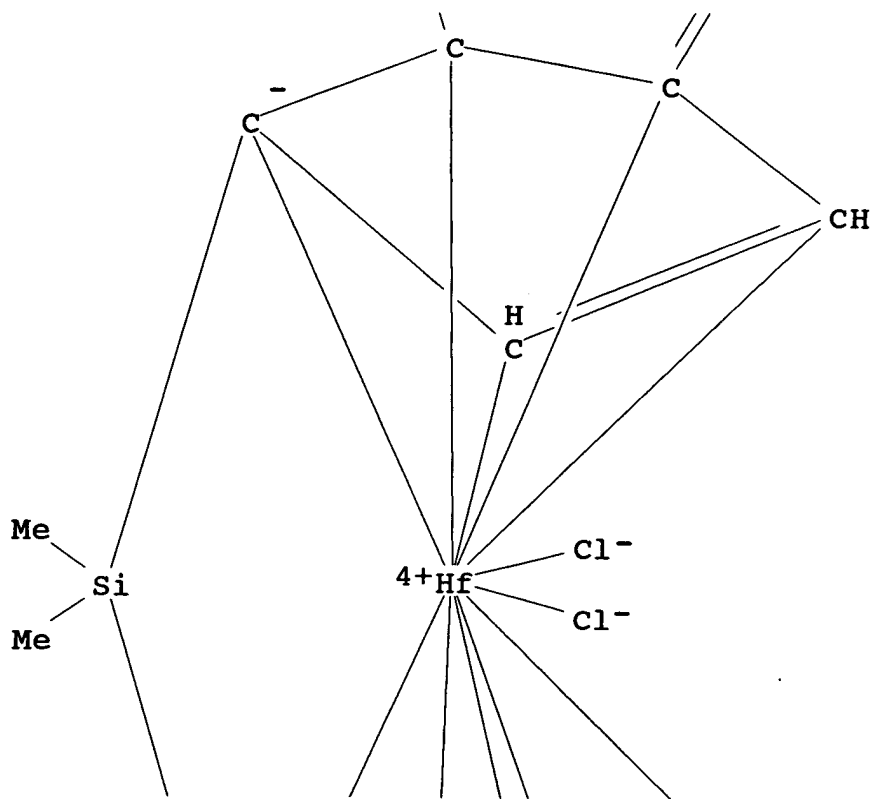
RN 124684-46-4 CAPLUS

CN Hafnium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

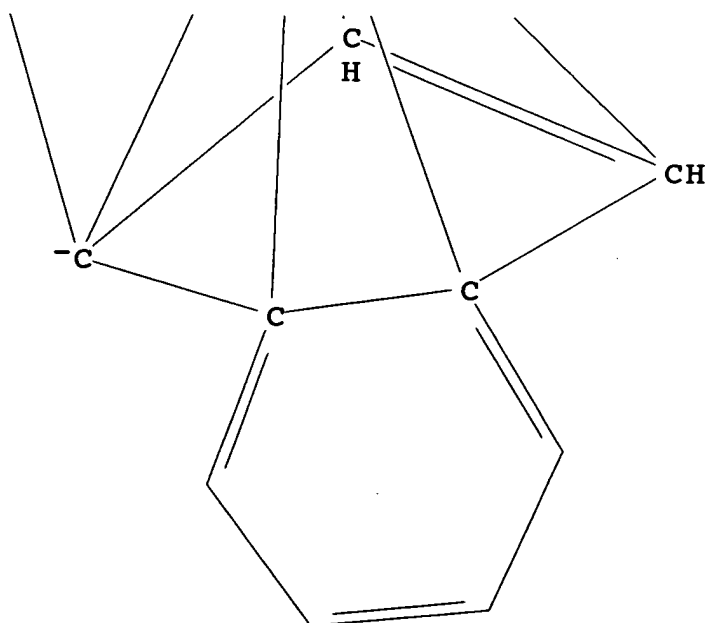
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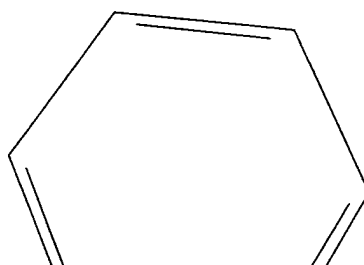
PAGE 3-A



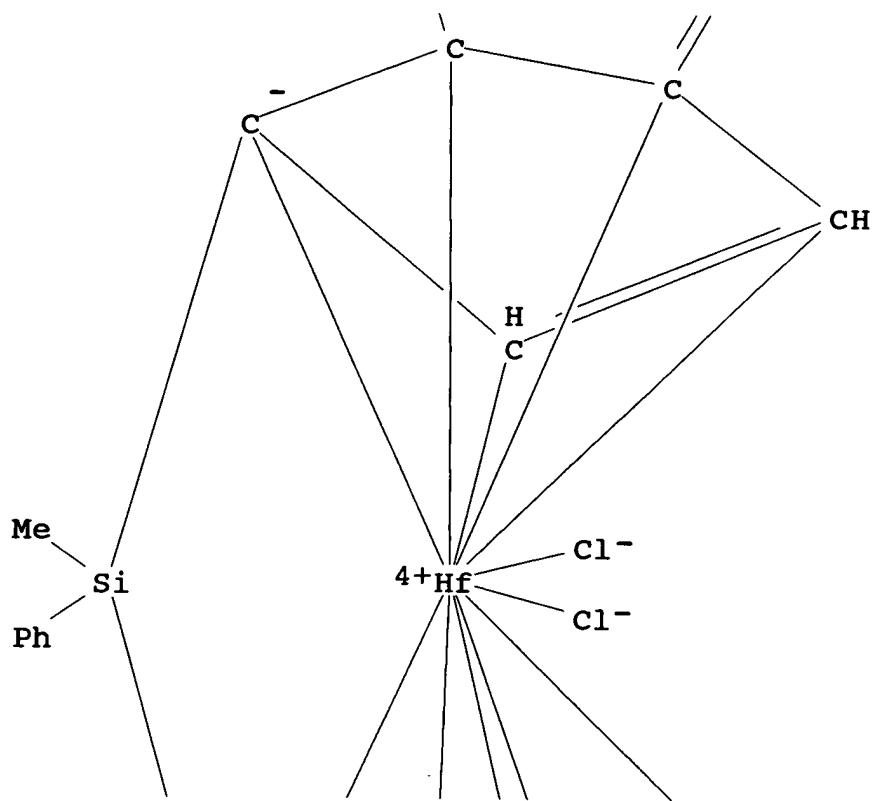
RN 124684-49-7 CAPLUS

CN Hafnium, dichloro[(methylphenylsilylene)bis[(1,2,3,3a,7a-.eta.)-1H-inden-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

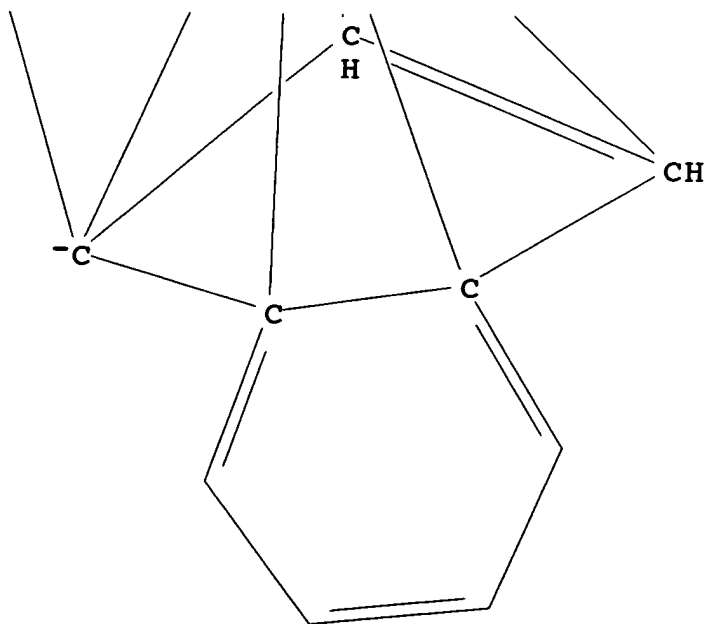
PAGE 1-A



PAGE 2-A



PAGE 3-A



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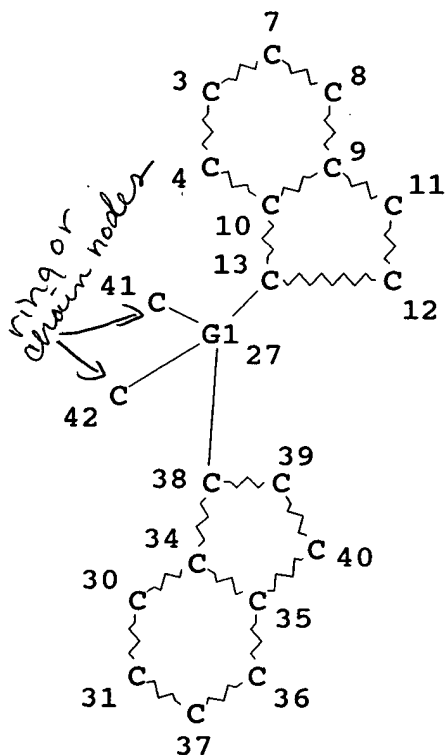
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DICTIONARY FILE UPDATES: 03 OCT 96 HIGHEST RN 181354-01-8

TSCA INFORMATION NOW CURRENT THROUGH DECEMBER 1995

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conducting SmartSELECT searches.

L42

STR



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(same as before)

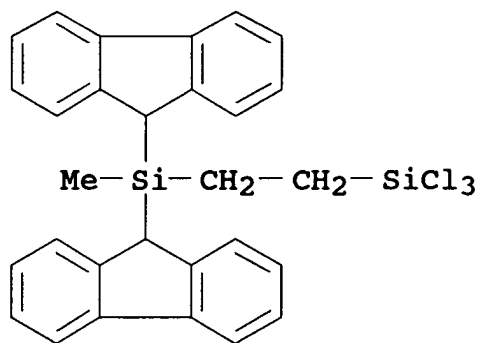
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NSPEC IS RC AT 42
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

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STEREO ATTRIBUTES: NONE

L44 146 SEA FILE=REGISTRY SSS FUL L42

Searched by Barb O'Bryen, STIC 308-4291

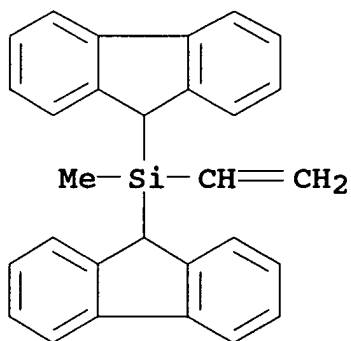


IT 164462-11-7P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(prepn. and hydrosilylation with trichlorosilane)

RN 164462-11-7 CAPLUS

CN Silane, ethenyldi-9H-fluoren-9-ylmethyl- (9CI) (CA INDEX NAME)



L61 ANSWER 6 OF 14 CAPLUS COPYRIGHT 1996 ACS

AN 1995:605972 CAPLUS

DN 123:112235

TI Investigations in the field of group 14 difluorenyl compounds

AU Silaghi-Dumitrescu, L.; Haiduc, I.; Escudie, J.; Couret, C.; Satge, J.

CS Chem. Dep., Babes-Bolyai Univ., Cluj-Napoca, Rom.

SO Synth. React. Inorg. Met.-Org. Chem. (1995), 25(4), 575-90

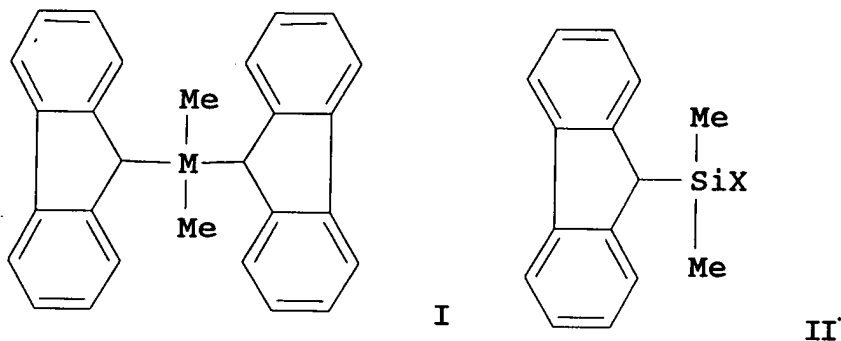
CODEN: SRIMCN; ISSN: 0094-5714

DT Journal

LA English

OS CASREACT 123:112235

GI



AB Dimethyl(difluorenyl)silane, -germane and -stannane I (M = Si, Ge, Sn) are quant. obtained by a 1-pot synthesis from dimethyldichlorosilane, -germane and -stannane and two equiv. of fluorenyllithium. Monofluorenyl compds. II (X = Cl, F) can also be obtained selectively using a stoichiometric amt. of fluorenyllithium. Addn. of one or two equiv. of BuLi to I affords selectively the corresponding monolithio or dilithio derivs., resp., which can be quenched by MeI, Me₃SiCl or Me₂SiCl₂. An NMR study shows the great influence of the 2nd fluorenyl group on the chem. shifts of methyls bonded to metal, and on the hydrogen on C9 of the fluorenyl group.

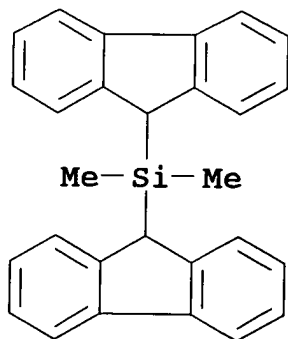
IT 18769-00-1P 166118-05-4P 166118-06-5P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(dimethyl(difluorenyl)silane, -germane and -stannane are quant. obtained by a 1-pot synthesis from dimethyldichlorosilane, -germane and -stannane and two equiv. of fluorenyllithium)

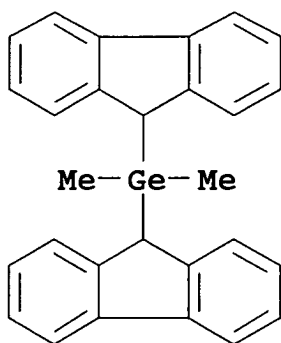
RN 18769-00-1 CAPLUS

CN Silane, di-9H-fluoren-9-yl dimethyl- (9CI) (CA INDEX NAME)



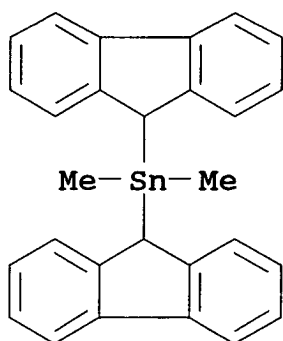
RN 166118-05-4 CAPLUS

CN Germane, di-9H-fluoren-9-yl dimethyl- (9CI) (CA INDEX NAME)



RN 166118-06-5 CAPLUS

CN Stannane, di-9H-fluoren-9-yl dimethyl- (9CI) (CA INDEX NAME)



IT 166118-08-7P 166118-09-8P 166118-10-1P

166118-11-2P 166118-12-3P 166118-13-4P

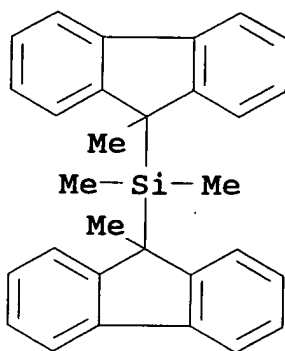
166118-14-5P 166118-15-6P 166118-16-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(dimethyl(difluorenyl)silane, -germane and -stannane are quant.
obtained by a 1-pot synthesis from dimethyldichlorosilane,
-germane and -stannane and two equiv. of fluorenyllithium)

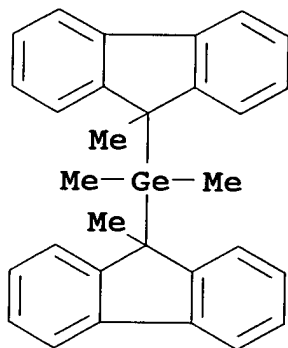
RN 166118-08-7 CAPLUS

CN Silane, dimethylbis(9-methyl-9H-fluoren-9-yl)- (9CI) (CA INDEX
NAME)



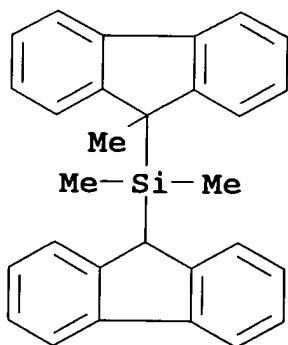
RN 166118-09-8 CAPLUS

CN Germane, dimethylbis(9-methyl-9H-fluoren-9-yl)- (9CI) (CA INDEX NAME)



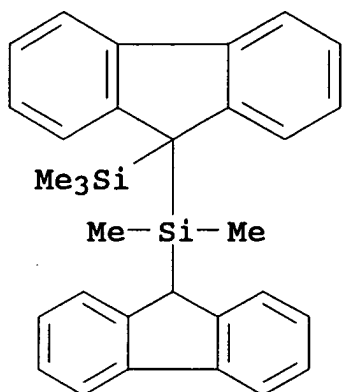
RN 166118-10-1 CAPLUS

CN Silane, 9H-fluoren-9-yldimethyl(9-methyl-9H-fluoren-9-yl)- (9CI)
(CA INDEX NAME)



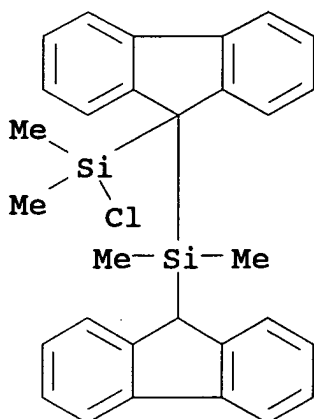
RN 166118-11-2 CAPLUS

CN Silane, [9-(9H-fluoren-9-yldimethylsilyl)-9H-fluoren-9-yl]trimethyl-
(9CI) (CA INDEX NAME)



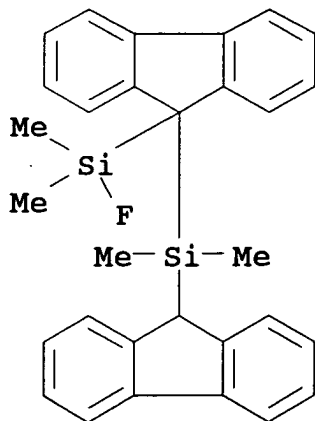
RN 166118-12-3 CAPLUS

CN Silane, [9-(chlorodimethylsilyl)-9H-fluoren-9-yl]-9H-fluoren-9-yl-
dimethyl- (9CI) (CA INDEX NAME)



RN 166118-13-4 CAPLUS

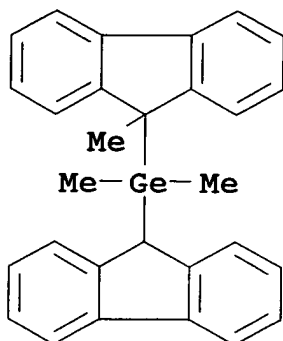
CN Silane, [9-(9H-fluoren-9-yl)-9H-fluoren-9-yl]fluorodimethyl- (9CI) (CA INDEX NAME)



RN 166118-14-5 CAPLUS

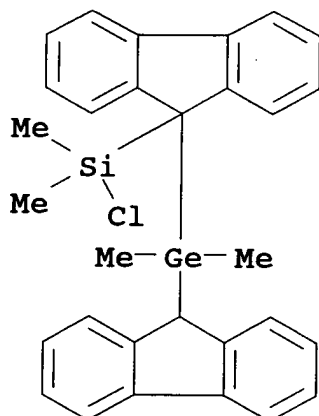
Searched by Barb O'Bryen, STIC 308-4291

CN Germane, 9H-fluoren-9-yldimethyl(9-methyl-9H-fluoren-9-yl)- (9CI)
(CA INDEX NAME)



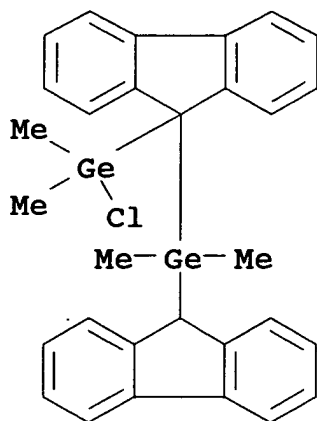
RN 166118-15-6 CAPLUS

CN Silane, chloro[9-(9H-fluoren-9-yldimethylgermyl)-9H-fluoren-9-yl]dimethyl- (9CI) (CA INDEX NAME)

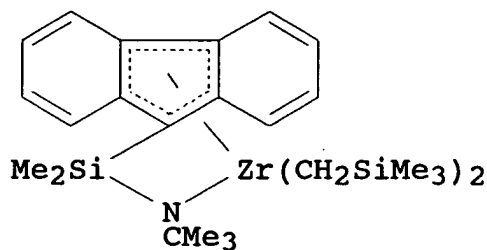


RN 166118-16-7 CAPLUS

CN Germane, [9-(chlorodimethylgermyl)-9H-fluoren-9-yl]-9H-fluoren-9-yldimethyl- (9CI) (CA INDEX NAME)



L61 ANSWER 7 OF 14 CAPLUS COPYRIGHT 1996 ACS
 AN 1995:336641 CAPLUS
 DN 122:239867
 TI Synthesis and Characterization of Zirconium Complexes Containing a
 Linked Amido-Fluorenyl Ligand
 AU Okuda, Jun; Schattenmann, Florian J.; Wocadlo, Sigrid; Massa, Werner
 CS Fachbereich Chemie, Philipps-Universitaet Marburg, Marburg, D-35032,
 Germany
 SO Organometallics (1995), 14(2), 789-95
 CODEN: ORGND7; ISSN: 0276-7333
 DT Journal
 LA English
 OS CASREACT 122:239867; CJACS-IMAGE; CJACS
 GI



I

AB Zr complexes contg. an amido-fluorenyl ligand bridged by a dimethylsilylene group, $C_{13}H_8SiMe_2NCMe_3$, were synthesized. The dichloro complexes $Zr(.eta.5:.eta.1-C_{13}H_8SiMe_2NCMe_3)Cl_2(L)$ ($L = THF, Et_2O$) were prepd. by reacting $ZrCl_4L_2$ with $Li_2[C_{13}H_8SiMe_2NCMe_3]$ and characterized as labile mono(solvent) adducts. Reaction with $MeMgCl$ gives the thermally sensitive di-Me complex $Zr(.eta.5:.eta.1-C_{13}H_8SiMe_2NCMe_3)Me_2(THF)$, whereas solvent-free dialkyl derivs. $Zr(.eta.5:.eta.1-C_{13}H_8SiMe_2NCMe_3)Ph_2$ and $Zr(.eta.5:.eta.1-C_{13}H_8SiMe_2NCMe_3)(CH_2SiMe_3)_2$, all under preservation of the chelate structure, are obtained with $PhMgCl$ and Me_3SiCH_2MgCl , resp. Variable-temp. 1H NMR spectroscopic data reveal a sterically

Searched by Barb O'Bryen, STIC 308-4291

congested ligand sphere around the Zr atom which is confirmed by a single-crystal x-ray diffraction study in the case of the bis[(trimethylsilyl)methyl] deriv. (shown as I). The substituted fluorenyl ligand is pentahapto-bonded with some variation of the Zr-ring C bond lengths. The amido N is trigonal planar as a result of significant π -donation to the Zr. The two (trimethylsilyl)methyl groups do not appear to be strongly distorted despite being bound to a 12-electron d0 center but give rise to a conformation in which the repulsion between the trimethylsilyl and the tert-Bu groups is minimized. This compd. crystallizes from pentane in the monoclinic space group P21/n with a 9.326(3), b 16.806(5), and c 19.638(6) .ANG., β . 93.23(2).degree., Z = 4, R = 0.0308, WR2 = 0.079.

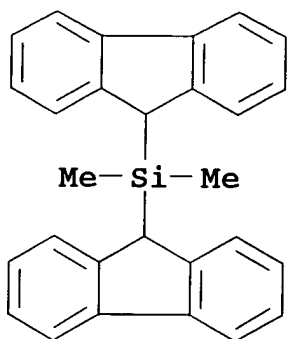
IT 18769-00-1P

RL: BYP (Byproduct); PREP (Preparation)

(prepn. of dimethylsilylene-linked amido-fluorenyl ligand)

RN 18769-00-1 CAPLUS

CN Silane, di-9H-fluoren-9-yl dimethyl- (9CI) (CA INDEX NAME)



L61 ANSWER 8 OF 14 CAPLUS COPYRIGHT 1996 ACS

AN 1995:234768 CAPLUS

DN 122:10262

TI Process for preparing cyclopentadienyl group-containing silicon compound or cyclopentadienyl group-containing germanium compound.

IN Kiso, Yoshihisa; Kawaai, Koji; Nitabaru, Masatoshi

PA Mitsui Petrochemical Industries, Ltd., Japan

SO Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

PI EP 617044 A2 940928

DS R: DE, FR, GB, IT, NL

AI EP 94-301990 940321

PRAI JP 93-62216 930322

DT Patent

LA English

OS CASREACT 122:10262

AB A process for prepg. a cyclopentadienyl group-contg. Si compd. or a cyclopentadienyl group-contg. Ge compd., comprises reacting (i) a Li, Na or K salt of a cyclopentadiene deriv. with (ii) a Si halide compd. or a Ge halide compd. in the presence of a cyanide or a thiocyanate. The cyanide or the thiocyanate is preferably a Cu

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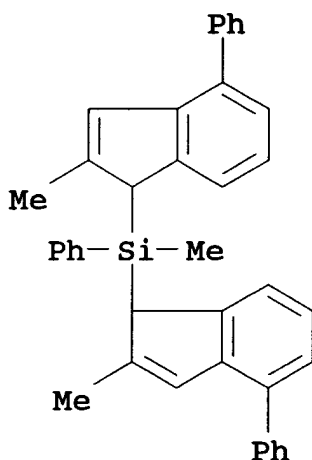
salt. According to the process of the invention, a cyclopentadienyl group-contg. Si compd. or a cyclopentadienyl group-contg. Ge compd., which is very useful for the prepn. of a metallocene complex catalyst component, can be prepd. in a high yield in a short period of time.

IT 153733-77-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of cyclopentadienyl silicon and germanium compds. by reaction of silicon or germanium halides with cyclopentadienyl lithium compds. catalyzed by cyanides or thiocyanates)

RN 153733-77-8 CAPLUS

CN Silane, methylbis(2-methyl-4-phenyl-1H-inden-1-yl)phenyl- (9CI) (CA INDEX NAME)



L61 ANSWER 9 OF 14 CAPLUS COPYRIGHT 1996 ACS

AN 1994:192366 CAPLUS

DN 120:192366

TI The Influence of Aromatic Substituents on the Polymerization Behavior of Bridged Zirconocene Catalysts

AU Spaleck, Walter; Kueber, Frank; Winter, Andreas; Rohrmann, Juergen; Bachmann, Bernd; Antberg, Martin; Dolle, Volker; Paulus, Erich F.

CS Hoechst AG, Frankfurt/Main, 65926, Germany

SO Organometallics (1994), 13(3), 954-63

CODEN: ORGND7; ISSN: 0276-7333

DT Journal

LA English

OS CJACS-IMAGE; CJACS

AB The synthesis of seven new bridged zirconocenes is described, which make isotactic polypropylene when used in polymns. of propylene with methylaluminumoxane as cocatalyst. Their polymn. behavior in propylene and ethylene polymns. is examd. and discussed. Arom. substituents in appropriate positions of the zirconocene ligand frame result in catalysts with activities, stereospecificities, and polypropylene mol. wts. much higher than those of any previously described metallocene system. By structure variations it is demonstrated that the effectiveness of these substitutions strongly depends on their position and on a nonincremental synergism with

Searched by Barb O'Bryen, STIC 308-4291

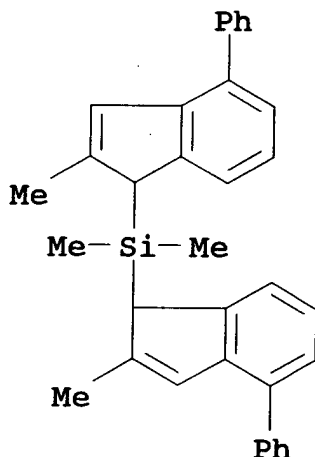
alkyl substituents on the ligand frame. The high activities of the systems can be explained well by electronic effects, whereas steric effects obviously play the more important role for the high stereospecificities and high mol. wts. of the polymers.

IT 153733-76-7P 153733-77-8P 153733-78-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and condensation of, with zirconium tetrachloride)

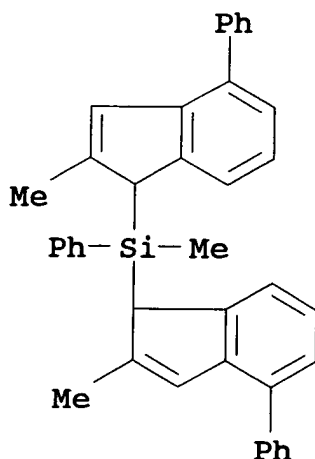
RN 153733-76-7 CAPLUS

CN Silane, dimethylbis(2-methyl-4-phenyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



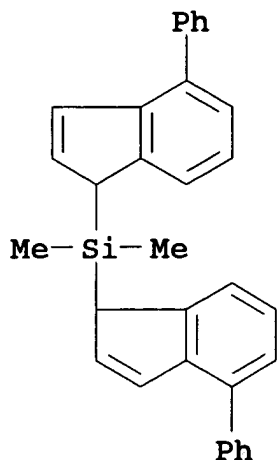
RN 153733-77-8 CAPLUS

CN Silane, methylbis(2-methyl-4-phenyl-1H-inden-1-yl)phenyl- (9CI) (CA INDEX NAME)

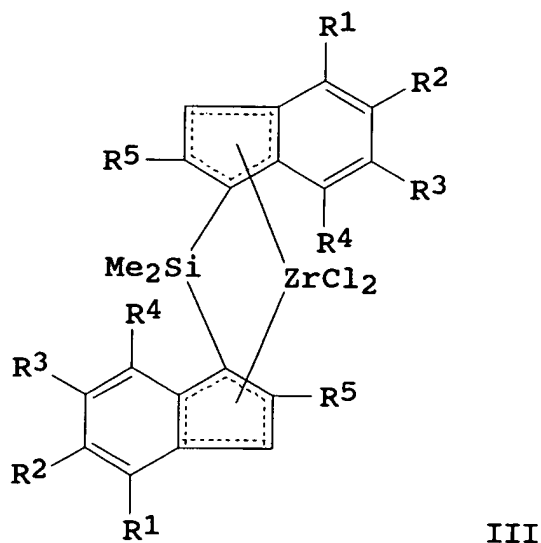
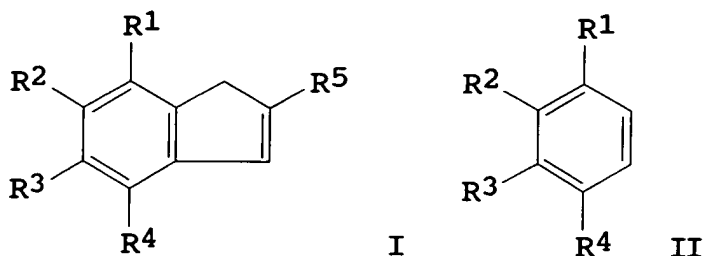


RN 153733-78-9 CAPLUS

CN Silane, dimethylbis(4-phenyl-1H-inden-1-yl)- (9CI) (CA INDEX NAME)



L61 ANSWER 10 OF 14 CAPLUS COPYRIGHT 1996 ACS
AN 1993:650177 CAPLUS
DN 119:250177
TI Process for the preparation of substituted indenenes and their use as
ligands for metallocene olefin polymerization catalysts
IN Rohrmann, Juergen; Kueber, Frank
PA Hoechst A.-G., Germany
SO Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
PI EP 545304 A1 930609
DS R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE
AI EP 92-120289 921127
PRAI DE 91-4139594 911130
DT Patent
LA German
OS CASREACT 119:250177; MARPAT 119:250177
GI



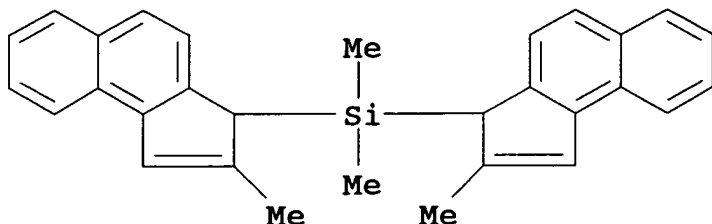
AB A process for the prepn. of indene derivs. of formula I wherein R1-R5 are the same or different and may be H, alkyl, aryl, alkoxy, haloaryl, etc., comprises treatment of aryl compds. II with R5CMe(X1)C(O)X2 [X1, X2 = halo; e.g., X = Br, R5 = H] in the presence of a Friedel-Crafts catalyst, e.g., AlCl3, to give the corresponding indanone, followed by a reductive elimination with NaBH4. Silylation of I by sequential treatment with BuLi and diorganodichlorosilanes gave a bis(indenyl)silane intermediate which upon treatment with ZrCl4 gave silanediylmetallocene complexes such as III. III were examd. for catalytic activity in the polymn. of propylene.

IT 150096-53-0P 150096-56-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and metalation of. with zirconium tetrachloride)

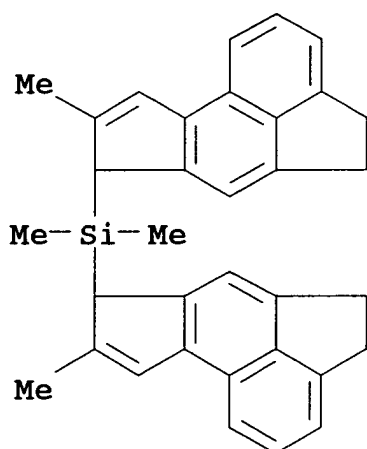
RN 150096-53-0 CAPLUS

CN Silane, dimethylbis(2-methyl-3H-benz[e]inden-3-yl)- (9CI) (CA INDEX NAME)



RN 150096-56-3 CAPLUS

CN Silane, bis(5,7-dihydro-8-methyl-4H-cyclopent[e]acenaphthylen-7-yl)dimethyl- (9CI) (CA INDEX NAME)



L61 ANSWER 11 OF 14 CAPLUS COPYRIGHT 1996 ACS

AN 1993:101677 CAPLUS

DN 118:101677

TI Preparation of fluorene derivatives

IN Patsidis, Konstantinos; Palackal, Syriac Joseph; Alt, Helmut

PA Phillips Petroleum Co., USA

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

PI EP 512554 A2 921111

DS R: AT, BE, DE, ES, FR, GB, IT

AI EP 92-107781 920508

PRAI US 91-697363 910509

DT Patent

LA English

OS MARPAT 118:101677

AB Title compds. ZRZ (at least 1 Z = org. radical contg. cyclopentadienyl functionality and the other Z = cyclopentadienyl-contg. org. radical, Cl, Br, iodo) were prepd. by reaction of the precursor to Z with an alkali metal alkyl to produce the Z anion and reaction of the latter with XRX (each X = Br, Cl, iodo; R = C1-20 alkylene which may contain Ge, B, Si, P, N, Al, O or R = Ge, Si, B, Al, P, Sn). Thus, BuLi was added to a soln. of fluorene in THF and the mixt. was stirred 1 h, then added over 2 h

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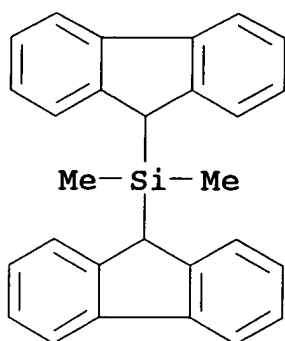
to a stirred soln. of 1,2-dibromoethane in pentane. Work up gave 1-bromo-2-(fluorenyl)ethane.

IT 18769-00-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 18769-00-1 CAPLUS

CN Silane, di-9H-fluoren-9-ylidimethyl- (9CI) (CA INDEX NAME)



L61 ANSWER 12 OF 14 CAPLUS COPYRIGHT 1996 ACS

AN 1991:430104 CAPLUS

DN 115:30104

TI Process and catalysts for preparing ethylene polymers

IN Spaleck, Walter; Antberg, Martin; Boehm, Ludwig; Rohrmann, Juergen;
Lueker, Hartmut

PA Hoechst A.-G., Fed. Rep. Ger.

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

PI EP 399348 A2 901128

DS R: BE, DE, ES, FR, GB, IT, NL

AI EP 90-109207 900516

PRAI DE 89-3916555 890520

DT Patent

LA German

OS MARPAT 115:30104

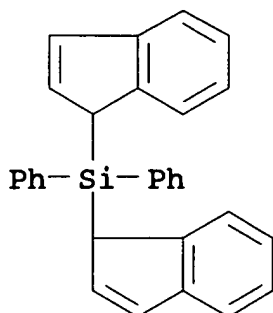
AB Ethylene homopolymers and copolymers with .alpha.-olefins are prepd. with high mol. wt. and low polydispersity by polymn. in the presence of a catalysts contg. aluminoxanes and transition metal metallocenes. Thus, [(dimethylsilylene)bis(1-inden-1-yl)]zirconium dichloride [prepd. from (dimethylsilylene)bis(1-indene), BuLi, and ZrCl₄.2THF] was mixed (4.0 mg) with 30 mL 10.5% Me aluminixane and used to polym. ethylene at 65.degree./5 bar for 60 min., giving 300 g polyethylene with viscosity no. 323 mL/g, bulk d. 0.210, and av. particle size 50 .mu.m.

IT 133897-32-2P

RL: PREP (Preparation)
(prepn. of)

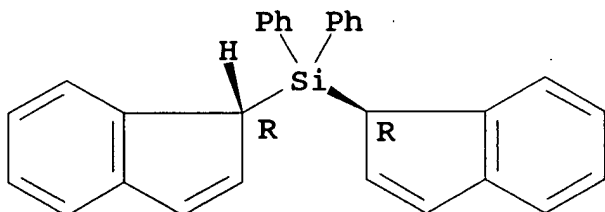
RN 133897-32-2 CAPLUS

CN Silane, di-1H-inden-1-ylidiphenyl- (9CI) (CA INDEX NAME)



L61 ANSWER 13 OF 14 CAPLUS COPYRIGHT 1996 ACS
 AN 1991:6813 CAPLUS
 DN 114:6813
 TI Preparation of bisindenylsilanes and -germanes as polymerization catalyst intermediates
 IN Rohrmann, Juergen; Antberg, Martin
 PA Hoechst A.-G., Fed. Rep. Ger.
 SO Ger. Offen., 5 pp.
 CODEN: GWXXBX
 PI DE 3844282 A1 900705
 AI DE 88-3844282 881230
 DT Patent
 LA German
 OS MARPAT 114:6813
 AB R1R2R6MXnMmR3R4R5 [R1-R4 = H, halo, alkyl, alkenyl, aryl, arylalkyl, alkylaryl, arylalkenyl, alkoxy, aryloxy, haloalkyl, haloaryl; R1R2, R3R4 = atoms to complete rings; R5, R6 = (substituted) indenyl, excluding 1,1'-(dimethylsilandiyl)bisindenyl; M = Si, Ge; X = alkylene, arylene, arylalkylene, alkylarylene, O[Si(Me2)O]p, etc.; m, n = 0, 1; p = 1-5], were prepd. Thus, indene in Et2O was treated with BuLi/hexane and the mixt. was added over 2 h to Et2SiCl2 in Et2O. The resulting mixt. was stirred overnight to give 62% 1,1'-(diethylsilandiyl)bisindenyl.
 IT 130713-86-9P 130713-97-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as polymn. catalyst precursor)
 RN 130713-86-9 CAPLUS
 CN Silane, di-1H-inden-1-ylidiphenyl-, (R*,R*)- (9CI) (CA INDEX NAME)

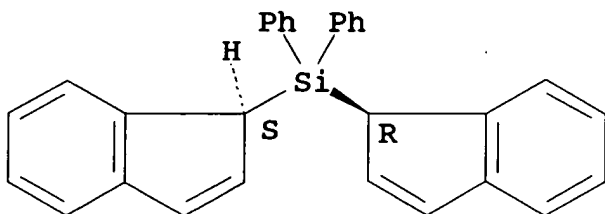
Relative stereochemistry.



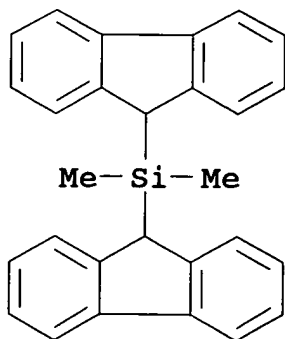
RN 130713-97-2 CAPLUS
 CN Silane, di-1H-inden-1-ylidiphenyl-, (R*,S*)- (9CI) (CA INDEX NAME)

Searched by Barb O'Bryen, STIC 308-4291

Relative stereochemistry.



L61 ANSWER 14 OF 14 CAPLUS COPYRIGHT 1996 ACS
 AN 1990:158633 CAPLUS
 DN 112:158633
 TI Bis(9-fluorenyl)dimethylsilane dipotassium salt for use in catalyts and its preparation
 IN Sugimori, Akira; Akiyama, Takeo; Kajitani, Masaji; Igarashi, Hiroshi
 PA Mitsubishi Metal Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 PI JP 01249782 A2 891005 Heisei
 AI JP 88-74580 880330
 DT Patent
 LA Japanese
 AB Title compd. (I), useful as an intermediate for organolanthanide catalysts for ethylene polymn. or hydrogenation of various olefins, is prepd. Thus, a THF soln. of 0.123 mol fluorene was treated dropwise first with a hexane soln. of 0.123 mol BuLi and then with a THF soln. of 0.0616 mol Me₂SiCl₂ at room temp. and the mixt. was refluxed for 2 days to give bis(fluorenyl)dimethylsilane, 5 mmol of which was stirred with 10 mmol KH in THF at room temp. for .apprx.20 h to give I in 60% yield.
 IT 18769-00-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and reaction of, with potassium hydride)
 RN 18769-00-1 CAPLUS
 CN Silane, di-9H-fluoren-9-yldimethyl- (9CI) (CA INDEX NAME)

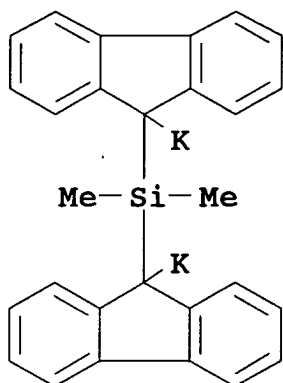


IT 126026-35-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as intermediate for organolanthanide catalysts)

RN 126026-35-5 CAPLUS

CN Potassium, [μ -[(dimethylsilylene)di-9H-fluoren-9-ylidene]]di-
(9CI) (CA INDEX NAME)



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